FOR THE AMSTRAD PCW 8256 • 8512 • 9512

8000 PLUS

ISSUE 14 • NOVEMBER 1987 • £1.50

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Spot on

The new PCW9512 makes its debut – full review inside

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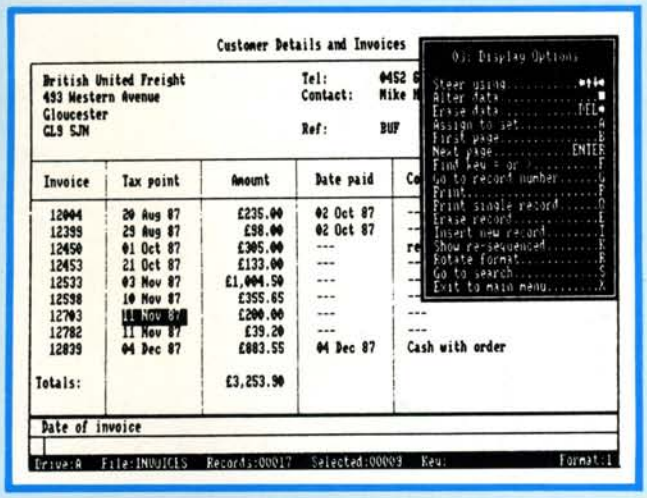

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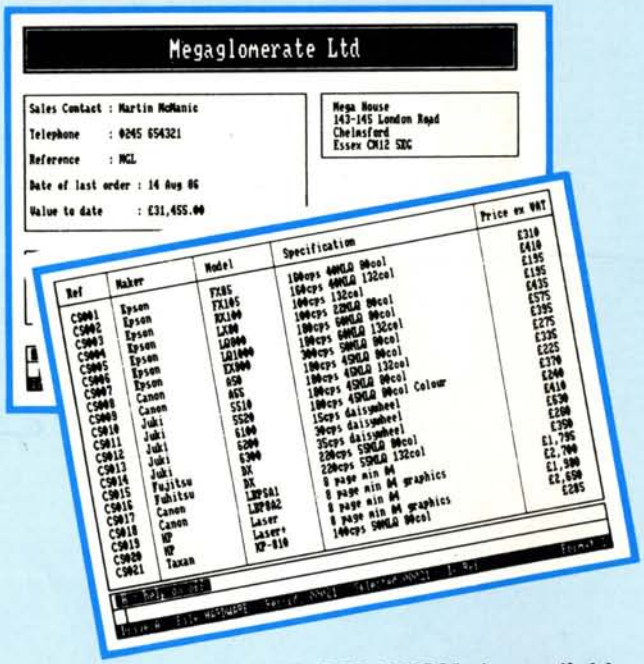

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STUART BAYNES PHOTOGRAPHY
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COLOUR ORIGINATION
WESSEX REPRODUCTIONS
352A WELLS ROAD
BRISTOL • BS4 0QL

PRINTING
REDWOOD WEB OFFSET
YEOMANS WAY
TROWBRIDGE • WILTS

DISTRIBUTION
SEYMOUR PRESS
334 BRIXTON ROAD
LONDON • SW9 7AG

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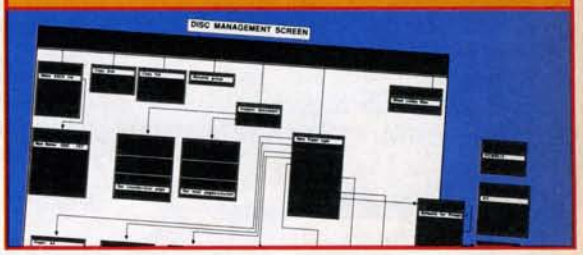

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'Ello, 'ello

This story – which we do promise you is a true phone call received this month – only goes to prove what evil-doing owning a PCW can inspire. Surely the government ought to ban their sale forthwith? Only the names have changed to protect the innocent:

"Hello, is that 8000 Plus?"

"Yes."

"This is Heathrow airport here. Customs police. Drug squad."

"No! I didn't do it, and anyway I was on holiday at the time."

"I'm sorry, Sir? Um, do you know anything about Money Manager Plus?"

"Oh, why is that?" (mops brow with relief.)

"Well, we've just picked up a trafficker through customs who has all the records of his dealings stored as a Money Manager Plus data file on his PCW disc. As we chased him down the corridor, chummy pulled back the metal cover and stuck his fingers on to the disc to make it unreadable. So if you can tell us how to recover the data we'd be terribly grateful."

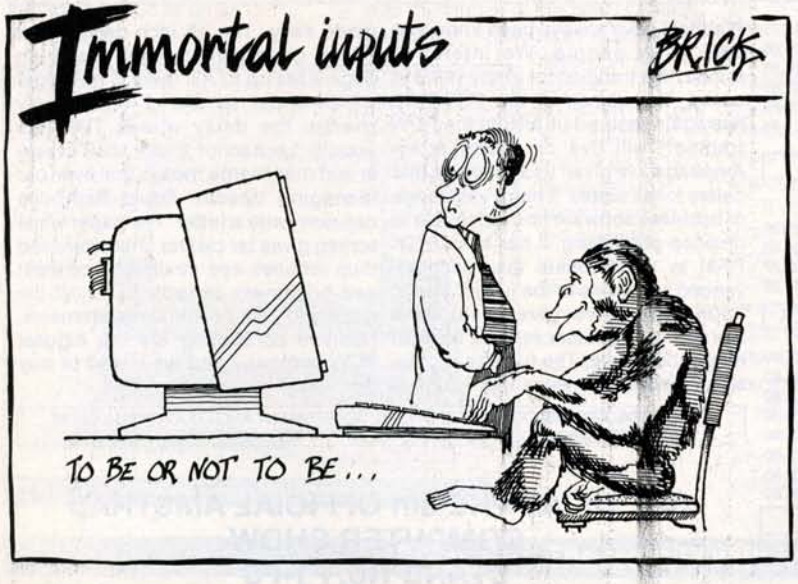
Trouble at t'shops

It seems that there have been some major distribution problems with the October issue of 8000 Plus (issue 13), particularly in the London area. We apologise if you've had difficulties getting hold of your copy.

Our distributors tell us that the whole news trade is currently seizing up due to the bumper size of Autumn issues of the various women's mags, and also to the increasing number of magazines offering cover gifts. We suggested that to save space in their transport vans they just forget to distribute our various rivals.

In view of the delays, we'll be holding the closing date for the Questionnaire prize draw open for another month. To stake your claim for one of three £25 vouchers, return your form by 26th *October*.

Meanwhile, if you haven't been able to get hold of a copy at all, we'll do our best to supply you with a back copy if you contact the mail order address (Somerton) given on the contents page.



MacGremlins strike

Do you remember how we said in issue 12 that our wonderful new Macintosh typesetting technology would cut down the number of printing errors in 8000 Plus? You do? Oh dear.

Ahem. Cough. Er, the ratings box on the review of last month's DataStore II database from Digita inadvertently gave a value verdict of 1 out of 5 – it was meant to be 4 out of 5, as those who read the review would have guessed. Sorry, Digita!

GENERATION GAME

Those who have experienced the computer boom for five years or so may be tempted to feel a familiar dread in the pit of their collective stomach at the launch of the PCW9512. They know only too well the process of a wonderful machine being superseded by the march of events – hardware and software becoming gradually obsolete as a new generation takes over.

The first thing to say is that the PCW9512 is good news in every respect for 8256 and 8512 owners. There is no question of the 8000 series machines being phased out. They are essentially identical inside, so virtually all software that will run on an 8000 will run on a 9512, and vice versa.

This means a bigger software market and manufacturers who were previously going cold on the PCW showing new interest as new owners appear. That's got to be good for everyone. The 9512 is is good for us as a magazine too – new readers mean new ideas, a new perspective. We'll certainly be running many features to introduce new PCW owners to the full power of their machines, and we welcome all 9512 owners.

This month's review lays out the pros and cons of the various models, and concludes that there are many arguments for buying an 8000 rather than a 9512. Our local branch of Dixons says that on the dual announcement of the 9512 launch and the £100 cut in the 8000 series, their entire stock of 8000s sold out immediately.

Having said that, the 9512 is a super machine and should replace the IBM Selectric as standard office issue. Undoubtedly Alan Sugar has done it again – looked for a market and designed a machine at the right price.

The only hint of darkness on the horizon is that Amstrad are not known as a charity. They have axed other ranges of computer in the past (CPC664 owners nod knowingly) denying vehemently that anything was going on until the day of the chop. But axing the 8000 series would be a major commercial mistake, and Amstrad don't make too many of those either.

Ben Taylor

8000 PLUS

The December issue of 8000 Plus will be on sale on Thursday November 19th. It's worth it's wait in gold.

9512 GOOD REASONS WHY NABITCHI WILL ALWAYS STOCK PCW'S!

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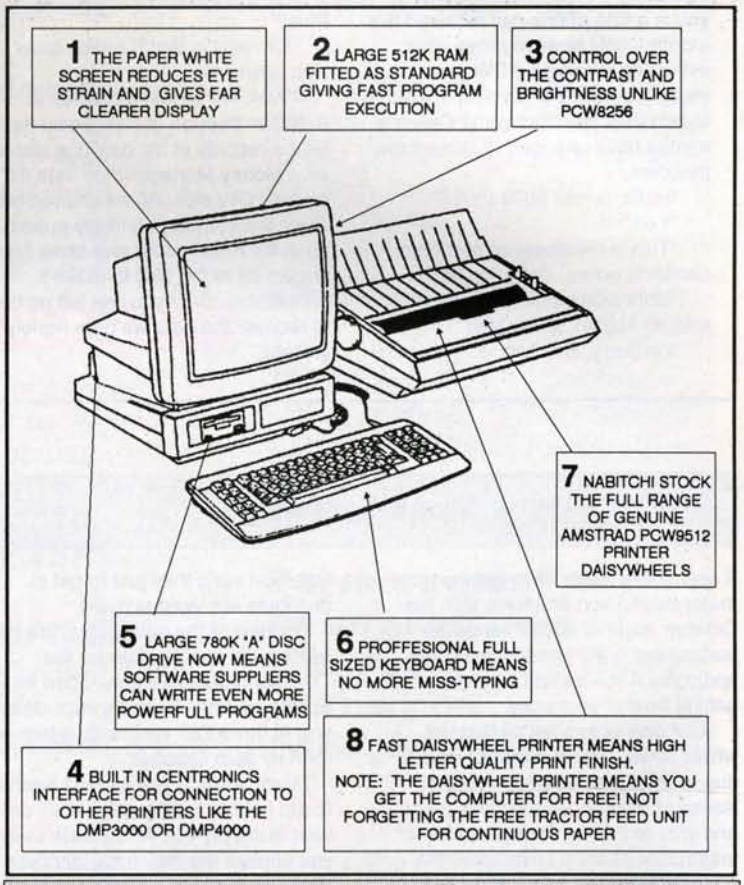

EVERYTHING THE 8256 SHOULD HAVE BEEN!

Nabitchi have always been known as THE PCW people. We intend to uphold this tradition for many years to come. The launch of the PCW9512 has again assured us all that the PCW tradition will live on. Once again Amstrad have given us a machine that caters for all tastes. It has a vast range of business software from accounts to desktop publishing. It has a full 512K RAM to accomodate the most advanced programs of the future. The 3" 780K disc drive gives vast data storage on the most reliable form of magnetic media. The full size professional keyboard means that typing is made easy. The 15 inch daisy wheel printer gives perfect letter quality on page sizes up to A3, there is no longer a limit to the number of fonts, simply change the daisy wheel. The ever popular Locoscript 2 with spell checker and mail merge means that even our managing director David Rathbone can now write a letter. The paper white screen gives far clearer characters and thus reduces eye strain with contrast and brightness controls to adjust the display to your personal requirements. Nabitchi computing are the biggest PCW company and we intend to stay that way.

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PCW SHOW COMES TO TOWN

The year's biggest computer show, the PCW show, took place at Olympia in Kensington from 23rd-27th September.

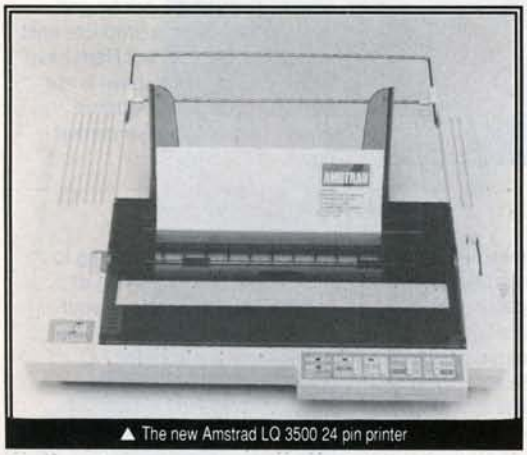
Despite its name the PCW Show doesn't revolve around the old Amstrad PCW. The PCW in the show's name stands for Personal Computer World and it was mainly the delights of computers like Atari STs, Commodore Amigas and even Amstrad PCs that made the computer buffs throng to the Olympia last month.

The big Amstrad news was, of course, the official announcement of the PCW9512. However, since it had been launched in the US in July the buzz of excitement was not as great as at previous Amstrad launches.

The only new news was official confirmation of the 9512's price – as widely predicted it will retail for £499+VAT – and the £100 price cut on the 8000 series machines. In theory there is an option on the 9512 to buy a dual floppy disc drive version, but there were no dual drive machines on the Amstrad stand nor was a price disclosed. It looks as though the second drive units will be sold separately for dealers or owners to install themselves, much as you can now upgrade an 8256 to an 8512 specification.

What was confirmed is the fact that Amstrad are chasing the business market with the new machine. Speaking of the old 8000 series machines Amstrad Group Sales and Marketing Director Malcolm Miller said "..they will continue to sell, but not to the professional market of lawyers, accountants and all those thousands of businesses which need real letter quality word processing. Now we have brought to that sector of the market an inexpensive dedicated word processor giving them perfect results and ease of use."

The other announcement of interest from the Amstrad stand was the launch of the new LQ 3500 24-pin high speed letter quality dot matrix printer costing £349+VAT. This, they claim, will print at up to 160 characters per second and up to 54 cps for letter quality. This is more aimed at the PC market but of course new 9512 owners who will want to print out graphics might be interested and the company point out that it can be used with the 8000 series using a CPS 8256 parallel interface. Whether the idea of using a printer that could have cost more than the word-processor appeals is debatable.



▲ The new Amstrad LQ 3500 24 pin printer

However sensible announcements about new sensible business machines are not really liable to make much of an impression on a show that seems dedicated to giving teenagers new and more demanding ways of saving 'civilisation as we know it' in full colour graphics. There were one or two little pockets of sanity like the Atari and Commodore 'villages' but as companies involved in the PCW market did not fit into these groups they had to do business to the sound of screaming aliens being blasted to oblivion.

On top of the world

After finding out what your computer can do, it is obviously time for the PCW to get its own back. London based Iansyst Ltd (01 607 5844) used the show to introduce PEP (Personal Excellence Package for Peak Mental Performance) a £19.95 program to help you find out about yourself.

It answers questions like what time of the day are you most alert and when do you make your best decisions (pretty easy in the case of the 8000 editorial team – any time after 6 pm). It also tells you if you think numerically, verbally or visually, what you can hold in short term memory and whether you are affected by caffeine or alcohol.

The Gnome Ranger

Oddest introduction at the show was Ingrid Bottomlow (Lady Gnome to her friends) who it was claimed has become managing director of games house Level 9. The CV with the press release shows that she is something over 920 years old, is unmarried and has a MA (Hons) from the Institute of Gnome Economics.

When interviewed on their stand at the PCW show Lady Gnome admitted in a flat, wooden voice that this was all a publicity stunt to launch the company's new game Gnome Ranger due out soon for the PCW.

Level 9 (0344 487597) has produced 15 adventure games over the last few years including a number for the PCW all sold through Rainbird including Jewels of Darkness and Silicon Dreams.

Gnome Ranger is the first program Level 9 have attempted to market on their own. As the picture shows Lady Gnome may not be very big but she is definitely the best looking out of the Level 9 management team.

The trouble with leads....

Kador have launched a 'data switch box' to allow the transfer of data from the PCW to two outlets such as printers, modems or other computers. In effect this is a routing device to allow several different peripherals to plug into your serial/parallel interface unit, and you can choose which one is active at any time at the flick of a switch. This all saves wear and tear as you endlessly plug and unplug leads.

It can be used for both serial or parallel connections and sells for £26.95. Ribbon cables are also available for £5.75. Kador have even come up with a special PCW user kit with a three socket switch box and the cables needed for only £29.95.

Kador also pose the enigmatic question, "Does your printer sound like a bee in heat?". This query introduces the news of their acoustic box/printer stand imaginatively named 'Peace 'n' Quiet'.

This, it is claimed, both lowers the level of the printer noise below the EEC recommended level and raises the unit seven centimetres above the level of your desk giving you an invaluable space to store continuous paper, discs or other whatnots.

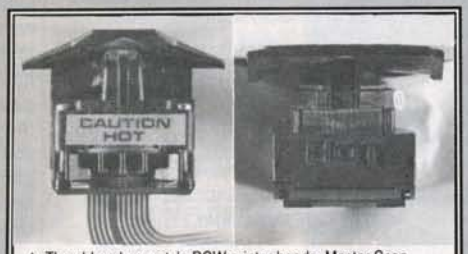
The black painted box has a see-through lid so you can see when the paper decides to go into automatic origami mode and there are paper slots for single and continuous sheets with a handy acoustic foam pad to stuff in the slot you are not using. It comes in a self-assembly kit for only £39.95.

For details on either product phone 0784 252662.

MasterScan blunder

Database Software have hit a problem with their new Master Scan scanner. The scanner is a clever little gizmo that fits neatly on to the print head and 'scans' a page of graphics or text reading it into a file in the computer. However, it transpires that it will not fit on the printer head of most PCWs bought this year.

Master Scan was designed to fit the old aluminium print head that was on the original PCW printer. It will not fit on to the 'C' model plastic print heads (the ones used for Amstrad DMP 2000 and 3000 printers) that have been standard with the PCW for some six to nine months now.



▲ The old and new style PCW printer heads. Master Scan works fine with the old one (left), but if yours looks like the new one (right) check with Database before ordering.

Database state they have things in hand and at the time of going to press the company said that they were getting a moulding made that will fit on to the new plastic head and which in turn will take the Master Scan fitment in a sort of piggyback arrangement.

This they state will be issued as standard with Master Scan allowing it to be used with any PCW. Master Scan costs £69.95. For details phone 061-480 0171.

9512 First

The prize for the first company to launch a special version of their product for the new PCW9512 goes to Thurston Brown Associates who have announced that they will produce a new TempDisc to make use of the daisy wheel printer with its wider carriage. TempDisc is a disc of special effects TEMPLATE.STD files that you can use with LocoScript – ring 0395 277496 for more info.

The launch of the 9512 must be a boon to all the add-on manufacturers out there – we look forward eagerly to new versions of all the carrying cases, dust covers, keyboard protectors etc. etc. Unfortunately it probably isn't such good news to the ribbon re-inking trade (re-inking carbon film ribbons is a bit tricky.)

Printing by the Hour

The days of the old characters-per-second standard to describe the speed of a printer may be numbered as nine top European printer manufacturers have decided to change the standard to Pages per Hour. This is thought to give a much more accurate assessment of the speed as it takes in details like time for the page feed and carriage return mechanisms

So now look out for pph instead of cps. There is no straight conversion factor from cps to pph because it depends on the printer, but a printer rated at 150 cps was rated at 237 pph, and 480 cps worked out to 466 pph. We couldn't find a pph figure for the humble PCW 20-cps printer.

Blessed are the Meek

The British Council of Churches have published a survey on computing for churches with the aim of recommending a suitable system for ministries. The PCW doesn't come out too well, since the Council members seem taken with the (vastly inferior) charms of the various IBM-compatible PCs.

The 8000 Plus postbag each month shows a very healthy sprinkling of Revs in our readership, so we suggest that the Council's advice may be falling on deaf ears.

The booklet 'A Survey and Analysis of the Effective Use of Computers in the Church' attempts to create a standard for personal computers in church work. It warns that anyone with a PCW will not be able to take advantage of the benefits of the standardisation.

The report also makes certain assessments of the size of the computer population in churches today suggesting that probably more than 2500 computers are in use at present.

If you would like to see a copy of the report, it costs £4.50 from *The British Council of Churches, 2 Eaton Gate, London SW1W 9BL* (01-730 9611).

Hold the front page

AMS aim to have the last word in the PCW desk top publishing market with the launch of their Stop Press package, designed by Tecnation. Stop Press acts as both a desk-top publishing program taking LocoScript documents direct and a stand-alone graphics package. The EasiGraph utility provides handy facilities for drawing graphs.

The program is not just tied into the production of 'news-sheets' being able to produce fly-posters and professional looking reports for all purposes.

The program is already well known to CPC and BBC users (15,00 copies have been sold) but, they humbly suggest, the new PCW version is reckoned to be the best yet. Stop Press sells for £49.99 from AMS (0925 413501).

Desktop Publishing

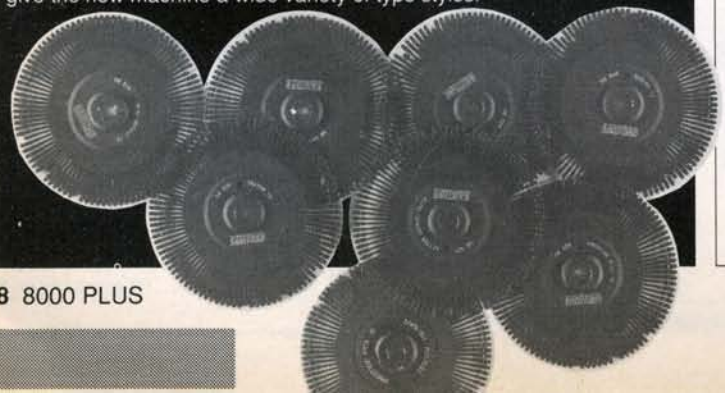
DK'Tronics to Ram

Ram Electronics are introducing themselves to PCW owners following their acquisition of all rights to manufacture and sell DK'Tronics branded products. This has given Ram a major interest in the PCW market with a sound controller and a real time clock to add to their RS 232 interface which was until now their only product for the PCW.

It is not likely that there will be any changes to the prices and range of DK'Tronics products until the turn of the year but Ram have stated that now they have a toe-hold they intend taking more interest in this lucrative market. Phone 0252 850085.

9512 daisywheel suppliers appointed

Sternstat of Perivale (01-991 1112) have been appointed sole distributors for what they playfully call "specific Amstrad original consumables" for the new 9512. This means they will supply dealers with the new multi-strike AP620 ribbon (claimed to give 150,000 character strikes) and the eight interchangeable print wheels which will give the new machine a wide variety of type styles.



The hard case

It may not really make it a portable computer but Hi-Tech Cases Ltd of Newcastle, Staffs have just launched a lightweight aluminium case to transport your precious PCW 8256/8512 in. The rigid £99.95 case will protect your machine from knocks and the locking clasps will give some security against theft. It has a padded interior and an adjustable divider to hold everything in place.

As an introductory offer they are offering a free PCW printer stand (for 8000 series machines). For details phone 0782 711064.

Or if you only want to shift your PCW a short distance why not try MEAC Designs Transportation Handle? This fits into the various holes that pit the top surface of the 8000 series machines without, according to the makers, any "screwing or gluing". Then just pick up your PCW and walk. It costs £19.95 and is available from MEAC Design, 0252 879005.

FLOPPY DISCOUNTS.

If you're used to floppy discs with stiff prices, we have good news. Amstrad now sell 3" compact floppy discs for £2.99.

They're suitable for the Amstrad CPC 6128, PCW 8256, PCW 8512 and the new PCW 9512 and all other computers that have 3" disc drives.

Each disc carries up to 360K of data (on the 8512 and the 9512 this doubles to 720K).

Available through: ADL, Allders, Comet, Currys, Dixons, Eltec, Farnell, First Software, Laskys, John Lewis, Lightning, Norbain, Office International, O.S.T.A., Ryman, Northamber, P&P, Sandhurst, Wildings, and Hugh Symons.

Price correct at 1.9.87 but may change without notice.

AMSTRAD

Amstrad plc., PO Box 462, Brentwood, Essex CM14 4EF. Telephone: (0277) 262326.

Ludwig van PCW

Michael Law investigates ways to connect your keyboard (PCW) to a keyboard (musical)

The PCW started life as word processor; then other business software started to appear – accounts, databases and spreadsheets; software houses began to see is entertainment potential and brought out a variety of games for the trusty machine. Now, taking the PCW one stage further, DHCP's new MIDI software has brought the power of musical composition to the green screen.

If you already own a synthesizer, or other keyboard of the musical variety, you will know that they usually have the capability to connect up to other similar instruments for remote control. Computers which have a so-called 'MIDI' interface can also talk to these instruments.

MIDI stands for Musical Instrument Digital Interface and is the standard way that most modern electronic musical instruments communicate with each other. It was originally used to connect two or more keyboard instruments together to produce more complex sound 'textures'; however manufacturers were not slow to realise that there were many other applications that MIDI could be put to.

The first non-keyboard MIDI devices were sequencers, essentially dedicated computers for storing and replaying MIDI note values. The sequencer records the note values sent to it via the MIDI, together with information controlling pitch bend, velocity sensitivity (how hard you hit the key for touch sensitive keyboards) and voice change. The information is recorded and can be sent back on any one of 16 separate MIDI channels, allowing you to control up to 16 synthesizers or other devices.

Over the past few years there has been an enormous increase in the variety of devices to control or be controlled by MIDI including effects units, mixers, and innumerable rack mounted (keyboardless) synthesizer and sampler expanders. You can play these from keyboards, drum pads, guitars, and various wind instrument (ie. saxophone or trumpet) units.

This means that with the use of sampling technology, a drummer can play bass, a sax player keyboards, a guitarist drums, a bass player percussion, and a keyboard player guitar, all without changing from their normal instrument. It also means that it is possible for solo artists to perform live and reproduce album tracks without backing tapes, extra musicians, or having to grow several extra arms.

What is a synthesizer anyway?

In essence a synthesizer is a device for creating sound electronically that allows you to shape pitch, tone and amplitude. There are two basic types of synthesizer, Analogue and Digital.

Analogue synthesizers work under voltage control, using an oscillator as the basic sound source. Digital synthesizers use digitally stored waveforms which are combined and manipulated within the digital domain to produce sound.

Analogue synthesizers produce the classic synthesizer effects heard on 1970s/early 80s albums by Jean-Michel Jarre, Tangerine Dream and so on.

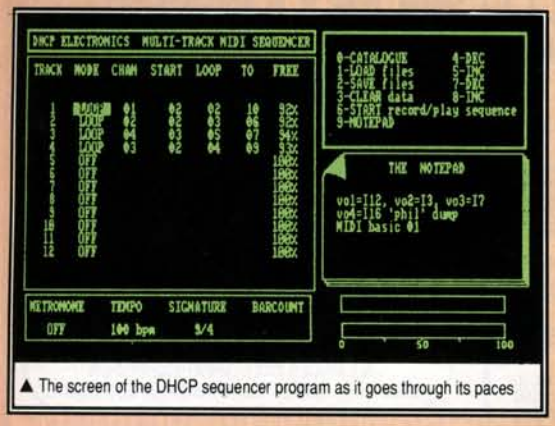
Digital synthesizers are capable of producing much 'cleaner' and more realistic representations of acoustic instruments, as well as some weird sounds of their own (if you're not careful!) Samplers are synthesizers which are able to digitally record and play back sounds. Samplers are mostly used to record specific instruments that are difficult to synthesize, such as the human voice. However with many current samplers it is possible to sample whole sections of a piece of music and use them in your own composition. Some people, such as the JAMs (Justified Ancients of Mu Mu!) have created entire pieces of music from samples of other people's records.

MIDI Modes

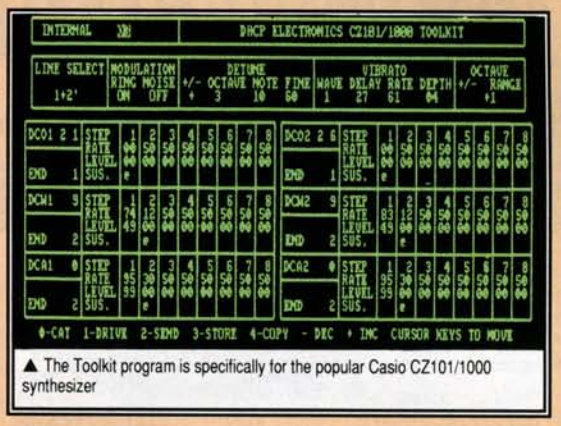
MIDI has four separate modes of operation that it uses to address instruments they are:
Mode 1: Omni on, Poly. Voice messages are recognised on all channels and play all voices polyphonically (ie. more than one note at a time)
Mode 2: Omni on, Mono. Voice messages are recognised on all channels, but only monophonically (ie. one note at a time)
Mode 3: Omni off, Poly. Voices are transmitted polyphonically only to instruments on a specifically assigned MIDI channel (1-16)
Mode 4: Omni off, Mono. This mode is used for specific voice assignments to a multi-timbral synthesizer (ie. a synthesizer capable of producing several different voices at a time).

Each voice is assigned its own MIDI channel. Instruments capable of supporting this mode are the most useful for inexpensive multi-channel sequencing. Synthesizers with Mode 4 will normally support Modes 1 and 3 as well.

On an increasing number of current synthesizers there is a new version called Omni off, Multi, which performs in the same way, but polyphonically.



▲ The screen of the DHCP sequencer program as it goes through its paces



▲ The Toolkit program is specifically for the popular Casio CZ101/1000 synthesizer

8 and 12 Track MIDI Sequencers . £45(8 Track); £60(12 Track); Interface £79.95 ● DHCP ● 0440 61207

So what does the DHCP sequencer on your humble PCW offer? Can it rival the multi-million pound studio setups?

It is essentially an entry level package. You will need to buy the interface unit which is the basic hardware required, and then pick one of the two software options depending on whether the instrument you are connecting to can handle more than 8 tracks or not. At £139.95 for the 12 track (including interface), it is well below the £250-or-more 16 track packages for the Atari (which already has the MIDI interface hardware built in), and cannot be expected to offer the same performance features.

The interface plugs into the expansion port of the PCW. The current model is a sturdy metal box, that can easily be persuaded to fall off under its own weight. This can be got round with a couple of sticky fixers, not an entirely satisfactory solution, but DHCP tell us that they are designing a smaller and lighter interface. Make sure it is secure, as constantly changing leads could well cause problems.

The copyright and moral problems caused by this sort of use are currently a very controversial area. Some artists, such as Frank Zappa are going as far as copyrighting individual sounds!

Most Hip-Hop and Rap records use extensive sampling, and nearly every Top 50 record seems to have a sampler on it somewhere. Some 12 inch remixes are entirely created by sampling.

Recently the micro-computer has become increasingly popular for MIDI sequencing. Unlike dedicated hardware sequencers, it is easier to edit and manipulate the sequencer data. It is unusual to go into any studio today that does not have at least a basic Micro sequencing package available.

Originally most Micro MIDI sequencers systems were designed for Apple II and Commodore 64 computers, but with the advent of inexpensive '16 bit' computers such as the Atari ST and Apple Mac it is more common to see them in action; there are some extremely powerful packages available for them.

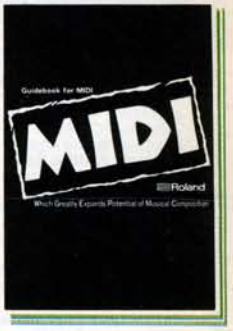
On more expensive sequencer packages, and on dedicated hardware sequencers there are features like 'Quantisation' which will attempt to assign what you have played to a specified note value, sometimes with very curious results.

You can also record in 'Step Time' which involves choosing a note length, and playing the notes in any speed you like. However sloppily you play in, the notes come out in the exact time you specified. If you are not careful with this method everything comes out sounding very robotic.

On more sophisticated computer sequencing systems it is possible to show the events on screen and edit from the computer keyboard, allowing very precise control.

Help for lost souls

Roland produce a 15 page booklet called 'Guidebook For Midi' with a reasonably simple explanation. It is supplied with all Roland MIDI equipment. If you would like to have a copy send an 18p stamp to *USS, PO Box 37b, East Molesey, Surrey KT8 9JB* (Tel. 01-577-5818). USS also have a very large catalogue of books on electronic music, so ask for a list.



Which synthesizer?

So, here you are sitting with your PCW and your sequencer, what are you going to plug into it to make the noise? Some PCW owners will already have a MIDI keyboard, but for the rest a few recommendations might be useful.

The most cost-effective starter keyboard is Casio's excellent multi-timbral CZ101 (or if you want a full size keyboard, the CZ1000), which supports Omni Off/Mono mode (see box) allowing you to sequence up to four different monophonic voices simultaneously. This instrument is available from £225, and is capable of producing some very good sounds. Even though it's cheap, many professionals use them, for instance Erasure use a rack of eight in the studio.

There are also a few inexpensive rack mounted (keyboardless) synthesizer expanders which support Omni Off/Mono. Yamaha produce the FB-01 (£299) and TX81-Z (£399), the essential difference between them being that it is possible to program the sounds directly on the TX81-Z, whereas the FB-01 can only be programmed with a computer.

Roland have just bought out the MT32 (£450) expander which not only is multi-timbral programmable synthesizer, but has drum/percussion sounds as well. You need a keyboard to program the DHCP sequencer, so it is necessary to add the cost of something like a Cheeta MK5 (£99 from Boots) if you are buying an expander.

If you have a larger budget, the new Korg DS8 (£999) is a versatile digital synthesizer with Omni off/Mono for up to eight voices, and is capable of excellent performance.

The Ensoniq ESQ1 (£1200) is superb, giving you Omni Off/Multi mode, allowing up to eight polyphonic voices. The Ensoniq has a 'dynamic note allocation' feature which allows the available voices to be shared between the channels, squeezing much more performance out of the instrument. The keyboard version has a built in 8 track sequencer, but it is available as a rack mounted module, the ESQM (£850), without the sequencer.

Incidentally, all of the above synthesizers are digital. Of course you can use any MIDI instrument or controller with the DHCP sequencer, although all the above are versatile and cost effective.

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As to the sequencing software, the screen is simply laid out. On the left is a box listing all the tracks and their current status, either Off, Rec(ord), Play, or Loop. There are columns giving the MIDI channel number, the looping status, and the percentage of memory used in each channel. Below this there is a small box with the metronome status – Off, Int(ernal) or Ext(ernal) – the tempo, from 40-250 beats per minute (bpm), the time signature – variable from 2/4 to 9/4 – and the barcount.

At the top right of the screen is the 'modes' menu. Briefly, you can load or save tracks to disc either a single track, or a complete set of 8 (or 12) tracks. You can clear data, either from one track, the whole memory, or the notepad. The notepad area is a space where you can put comments about the current sequence.

Keys 4 and 7 are used to increase values, and 5 and 8 to decrease. You can view a disc directory, which displays the names and types of files (single or multi track).

Underneath the Notepad area are two small boxes, one telling you which track is currently being recorded and the other is a bargraph which gives you an indication of what percentage of memory you've used on the current track.

Is this a record?

Before recording your first track you decide whether you want to hear the metronome or use an external device, such as a Drum machine. If you are using the metronome you then enter your time signature (default is 4/4), and the tempo. Having completed these highly technical operations you then go into record mode by placing the cursor over the relevant track mode sector.

Here you have the choice of recording/playing or playing only. When recording the barcount tells you what bar you are on, and the bargraph tells you how much memory you have used.

The sequencer not only records the note information, but also keyboard velocity (how hard you hit the key-board) so if you are using a touch sensitive keyboard like a Yamaha DX7 or Ensoniq ESQ1, it will play back with your sensitive interpretation intact. It also records any voice changes you make while playing. For some reason neither of these features are noted in the documentation.

If you use over 98% of the track memory, a message comes up to tell you that the buffer is full, and stops recording, though you have to stop the sequencer manually.

Before playing this back you can set the MIDI channel. This can be altered at any time after you have recorded, a very useful feature which allows you to change which instrument is being played, something that many dedicated hardware sequencers won't do.

You can also change the tempo and the time signature. It is possible to change from 4/4 to 9/4 for example, which gives interesting, though not necessarily musical, results.

Listen with MIDI

All the tracks are recorded in the same way. You can hear the tracks you have previously recorded as you lay down a new track (this is hip musicians' jargon for recording; don't forget to wear shades and chain-smoke Gauloises as you lay tracks down), or turn them off until you've finished. The Loop facility allows you to play back just one section of a track, so if you want to just repeat bars 5-10 it will do this for you.

It also allows you to start playback of the track at any point. This facility is programmable separately for each track, which can give you hours of fun. By recording a number of tracks and looping portions of them, it is possible to build up quite complex shifting patterns from very simple sequences. Very Brian Eno!

Casio Cascade

Casio CZ 101/1000 Toolkit, £45.00

Anyone who owns one of the popular Casio CZ101 or CZ1000 synthesizers will be interested in another offering from DHCP specifically for their benefit.

With Toolkit, the PCW screen shows all the voice editing parameters in the same numerical form as you would see on the synthesizer. But instead of only seeing between one and four parameters at a time on the miniscule unlit LCD of the CZs, you can see all the parameters simultaneously.

This makes editing the voices, and especially the envelope generators, (the parameters which 'shape' the sound) much easier to cope with. You can get a very quick idea about the structure of the sound without having to flip through the envelope parameters two at a time. This is particularly relevant when you realise the CZs have six envelope generators, with up to 18 parameters for each one.

The program is interactive with the CZ, and all editing is done from the computer keyboard, which is a little slow, as the computer has to scroll through the whole screen after every alteration. By hitting the space bar you can make the CZ play an ascending series of notes, enabling you to hear your current edit.

The best feature is the ability to store the edited sounds. On the CZ the only sound storage is 16 internal RAM memories, or plug-in RAM cartridges which hold another 16 sounds and cost about £30 each.

Toolkit allows you to save as many sounds as you like, either in banks of 16 or individually, direct to disc. Loading or storing sounds from the CZ takes only a few seconds. It is also possible to get a printed copy of the program on screen.

If you already have, or are going to buy, the DHCP interface and have a Casio CZ101/1000, this is an essential purchase. For less than the price of two Casio RAMs you have unlimited editing and storage facilities.

Unfortunately it is not possible to edit the tracks once they've been recorded, (except looping), so if you make a mistake, you have to record the track again.

All information is recorded in 'real time' that is it plays it back to you exactly as you played it, so it helps to have practised your piece before recording. DHCP are developing an editing program to work with the sequencer, but they were not able to give us any further details at present time.

When you are finally happy with your opus, you can then store it on disc. You give the piece a name, and the PCW saves not only the music, including looping information and MIDI channels, but any information on the notepad. It is possible when loading or saving to pick all the tracks, or just one. This is an interesting idea and enables you to combine tracks from several different sequences. Very Stockhausen!

Verdict

The DHCP sequencer package, though inexpensive, has some interesting features and is able to provide a good introduction to using computers in music even though the PCW was not really intended for this kind of thing. The documentation is brief and to the point, and the program is well designed and 'user-friendly', so you should have no problem running it. EXIT

PLUSES
- Easy to use, simple to learn.
- Looping facility can be used very creatively.
- Competitively priced

MINUSES
- No editing possible yet.
- Physical weight of current interface can cause problems.
- Barcount only shown on record

RANGE OF FEATURES	■■■■□	PERFORMANCE	■■■■□
EASE OF USE	■■■■■	DOCUMENTATION	■■■□□

8000 PLUS VALUE VERDICT ■■■■□

● *For this review Michael Law used an Ensoniq ESQ1, Casio CZ1000, Roland MKS30 expander, Akai VX90 expander, Yamaha FB-01 expander, Roland Octopad MIDI percussion controller, and a Roland TR707 Rhythm Composer*

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MAKE YOUR MIND UP

..or I used to be indecisive but now I'm not so sure

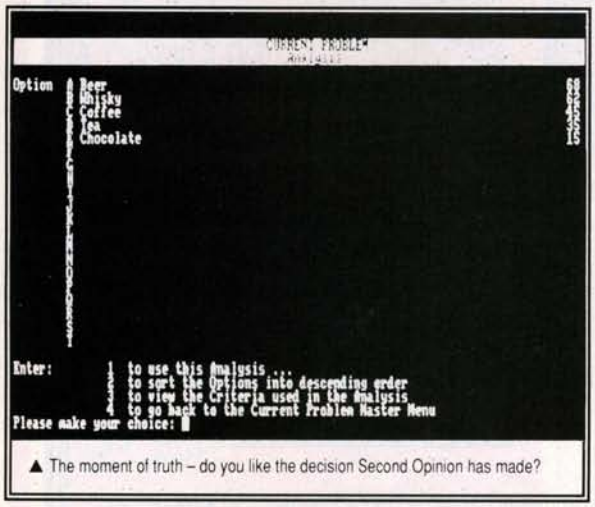
What can be more nerve-racking than making an important decision that involves a vast number of elements and will cost you dear if you make a mistake? Second Opinion is a new program which aims to bring the well-known infallibility of computers to bear on your decision making process.

You can't honestly say that Second Opinion is for people who don't like making decisions. It actually forces you make perhaps hundreds of small decisions instead of one big one. But what it certainly does is force you to think through the process of decision making and helps you get your priorities right.

It also gives you the impression that you are taking the chance element out of decision-making and seems to give you a scientific basis to your decisions, which many people will regard as invaluable.

Despite a sophisticated look, the program is delightfully simple to use. The most complicated part is negotiating the complicated protection system involving listing figures from a virtually unreadable code book.

This teaches you an important truth about Second Opinion. It is designed for organised minds. Disorganised people like computer journalists who would lose the code-book in half an hour would be better sticking to tossing a coin or consulting a crystal ball. The very layout of the program suits the careful, logical personality.



▲ The moment of truth – do you like the decision Second Opinion has made?

This shows up well in the manual which is painstaking to a degree that is almost counter-productive. All the information is there, with a good case study to allow you to easily get into the program, an excellent index and even 'road maps' to help you find your way through the menus. In the end there is too much information giving the impression that the program is far more difficult to learn than it really is.

Critical criteria

What would you use Second Opinion for? It can be used to tackle any problems which you can split up into component parts and give each part its correct importance. The case study given is for a job application where the options are the candidates and the criteria are the qualities needed for the job. However you can use it for deciding on which house to buy, whether to expand your business or whether to drink tea or coffee.

Your first task is to work out a list of the options you have. These can be anything – actions (a list of career moves), objects (all the types of cars you are considering buying) locations (when buying a house or going on holiday) and even people (job candidates or prospective employers).

You then list the criteria – whether the house is near the station or whether the job applicant will work for under £20,000. Each element is given a 'weight' a figure between -10 and 10. A plus figure makes the criterion more desirable and a minus more undesirable.

You take each option against each criteria and give it a 'rating' – a figure out of 10 to indicate how well the option fits the criterion.

Then it doesn't take long for the computer to work out the answer giving you a plus or minus figure to each option. At that point you still have to decide whether you will accept the program's decision or not. But if you have strong feelings that another option is far better it would seem that the program had helped you make your mind up anyway.

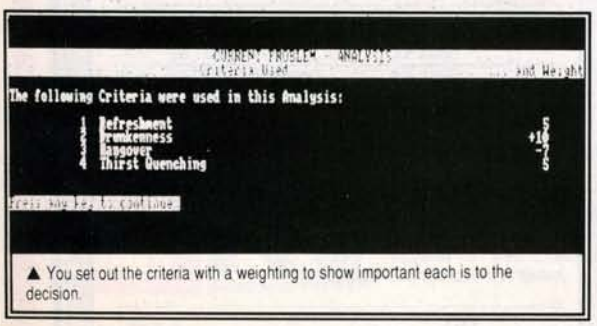
Changing its mind

If you don't like the decision (and are really keen), you can go back and change the criteria until the program gets it right. This allows all kinds of 'What-If' options. What if it wasn't important how much you spent on your car – yes then the Porsche would be the best one to buy.

Throughout this process you can always save the files to disc, as an ASCII file or print them out. You then can go back later and adapt existing files as circumstances change.

The value of this kind of program is not so much in the decisions it comes up with but rather that it forces you to be rigorous and logical in what factors you consider and the importance you attach to each.

At the end of the day someone who really can't make up their mind will probably be unable to decide on whether or not to shell out £42.75. But for people with the patience and organisation Second Opinion could help decision-makers sleep more soundly in their beds. EXIT



▲ You set out the criteria with a weighting to show important each is to the decision.

Psycho note

The theory behind this method of decision making has been available for some time although not always using the convenience of micro-computers. The Second Opinion manual is crammed with references to papers by Ajzen and Fishbein and others giving the psychological basis for 'expectancy-value models'.

PLUSES

- Invaluable for really complicated decisions
- Gives a scientific basis for decisions
- Flexible enough to cover all kinds of problems

MINUSES

- Too time consuming to use for minor decisions
- Made to look more complicated than it really is

RANGE OF FEATURES	■■■■■	PERFORMANCE	■■■■■
EASE OF USE	■■■■■	DOCUMENTATION	■■■■■

***8000 PLUS* VALUE VERDICT** ■■■■■

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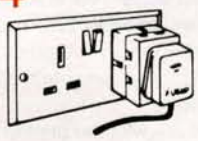

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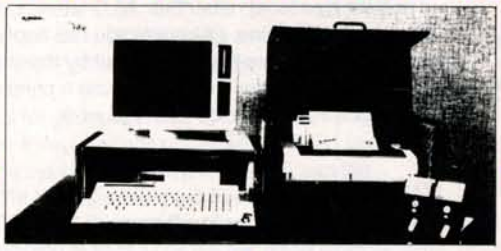

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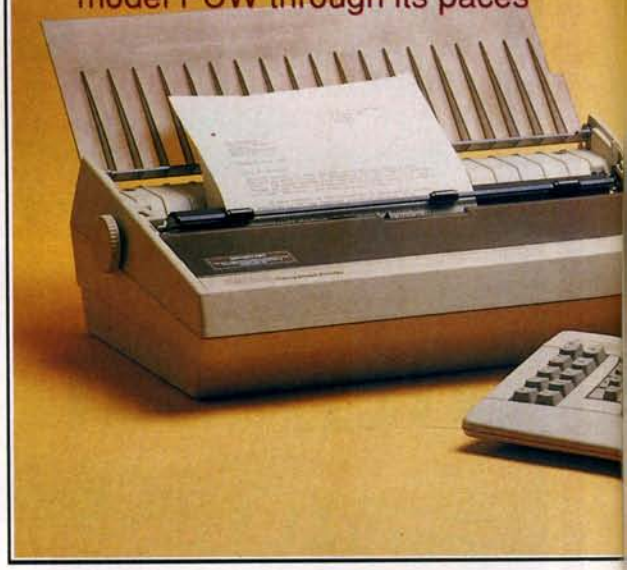
9000

The typewriter is dead, long live the typewriter. Rob Ainsley puts the new model PCW through its paces



The arrival of the PCW 9512 marks the latest stage in Amstrad's well-publicised campaign to send the office typewriter into obsolescence. The 8000 series machines were targeted at a group of potential buyers hitherto uncatered for – people who wanted a word processor first and a computer second, if at all. With word processing software written very much with flexibility, ease of use and the finished layout in mind and a printer thrown in, at less than the cost of anything else on the market, the success of the 8256 and 8512 was assured. How many have been sold depends on who you ask, but the figure is many hundreds of thousands in Britain alone. And a large percentage of users who thought they would never buy a computer are finding that as well as a very good word processor they also have a powerful micro which can run spreadsheets, databases and programming software.

The only drawback was the printed output. The dot matrix printer is great for quick drafts or graphics, and can produce perfectly adequate newsletters, manuscripts, memos, casual letters and so on, but even on its 'High Quality' setting (euphemistically called NLQ or 'near letter quality') the slight smudginess and unevenness of the 16-dot letter pattern means you don't get the crisp, sharp quality you'd like in your business letters or important documents. Even the cheapest electric typewriter produces better results, and many businesses would prefer to have their mailshots typed out in clear typescript rather than NLQ letters LocoScripted in a quarter of the time. Of course you can hook up the 8000 machines to a daisy wheel printer, but by the time you've bought an interface for sixty quid, found a printer for around £200, and learned how to make it all work...

Sunny spells

Users of LocoSpell have endless fun running innocuous files through the checker, using all the suggested 'corrections', and ending up with Dadaist prose. Some even go to the extent of writing plausible poetry by 'correcting' poems in a foreign language.

To business

No doubt as a response to criticisms of the 8256 and 8512, Amstrad have designed the 9512 to fit in precisely with the requirements of the business letter writer. The software that comes with the machine comprises LocoScript 2 complete with the LocoMail mail merger and LocoSpell spelling checker. You also get a full CP/M system as provided with the 8000 machines allowing you to run all the other commercial software around.

On the hardware front, the 9512 comes with a daisywheel printer to give you perfect quality letters, but it also includes an extra printer interface built-in to enable you to use a dot-matrix printer. This is useful if you want to print out quick drafts documents, or use programs which can print graphics out.

For file storage, the basic 9512 only has one disc drive fitted, but it is a 'double density' drive which means it is the same kind as the B-drive on an 8512. As a result your discs all have over 700k of space, and the memory is (ten points for your I-Spy book if you guessed) 512k. After the PCW has gobbled up what memory it needs to work in this leaves 360k or so for the M drive, big enough to run the largest programs from.

Amstrad say that there will be a twin-drive version of the 9512, which should in theory be available immediately. At the time of writing there has been no announcement of price, although it seems likely to be £599 plus VAT, and the relative numbers of single drive to twin drive machines being manufactured is also unclear.

Changing keys

The design of the new model owes a lot to Amstrad's popular personal computer, the PC 1512. The disc drive housing sits underneath the white-screen monitor (which doesn't swivel like the 1512's does although it looks as though it should) and the whole unit is cased in white plastic, looking from the back very reminiscent of plastic spacecraft models in cheap sci-fi movies.

The keyboard is larger than the 8000's and has had a few of the keys rearranged; the function keys f1 to f8 are now on the extreme left, next to the [CAN], [PTR], [ALT], and

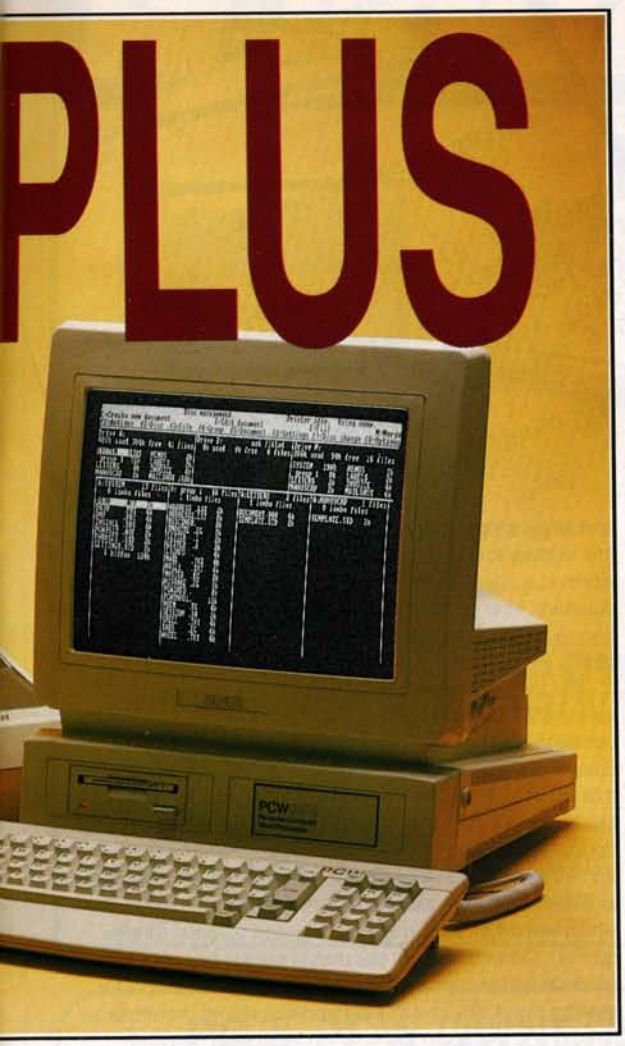
Disc partners

If you already have a PCW 8256/8512, you can use (almost) all of your discs in the 9512. B-drive (double density) discs can be read and written to as normal, while A-drive (single density) discs can only be read. The 9512 comes with a special program called 8000COPY which will copy your old single density discs to double density ones for you.

This means that any LocoScript documents you have can be read quite happily by the LocoScript 2 on the 9512. Also, any CP/M programs you have bought will run unchanged on the 9512 because the actual internal hardware of the new machine is substantially unchanged, despite outward appearances. All your database programs and data can be directly used on the 9512. You will need to follow the manual's instructions to make a new CP/M start-of-day disc, but from then on your old discs will run.

The fun and games begin if you try to use your old 8256 self-starting discs (boot discs) on the 9512, because you can't. However, the aforementioned utility 8000COPY, thoughtfully provided with the 9512, will take an 8256/8512 CP/M startup disc (one with the famous J14CPM3.EMS file on it) and will copy it onto a fresh disc as a 9512 startup.

If your program doesn't run from CP/M (many games don't; they have a special system all to themselves and you never see an A> prompt) you have problems. The bottom line of all this is that programs which are self-starting and don't run from CP/M (eg. the games Guardian, Blagger, Tomahawk etc) will probably not work on the 9512. If you are lucky you may find that the suppliers will release a new version for the 9512 and will swap your old disc for a small charge.



[EXTRA] keys. At the foot of this group are the set and clear keys, the [+] and [-]. The paragraph sign between the # key and the semi-colon has been replaced by a vertical bar too. Otherwise the layout is as expected, though at last we know what the 'home' key (the one on the numeric pad with cross-hatching and no apparent function) was for all along; on the 9512, it invokes LocoSpell and spell-checks single words. The new layout is fine though it may take you a few attempts to get [SHIFT]+[EXTRA]+[EXIT].

The printer is bound to be the main point of interest. It's a solid, substantial looking piece of equipment. Like the 8000 series machines it is software controlled via the [PTR] key on the PCW – there are no control buttons on the printer itself. It will autoload single sheets of paper, or has an optional tractor feeder for continuous stationery. The auto-feeder has a very powerful grip and can even pull through thickish brown envelopes.

One very welcome feature is the printer's wide platen which allows it to take A4 sheets sideways ('landscape' as LocoScript 2 called it to a generation of mystified 8000 users, whose printers are too narrow to take A4 that way) or use A3 paper. Solicitors specialising in verbose leases and voluminous documents will be ecstatic (and will have something new to charge for).

Packet of diskkits

As you switch on and insert your LocoScript disc you see the familiar screen messages followed by a longish pause as the dictionary for LocoSpell is copied into the M drive. The lines of the disc manager appear with all those example files LocoScript 2 owners will know and love.

Spellbound

You can call up the spell checker any time during the editing of a document by pressing f7=Spell. You're offered a variety of options to check the whole document, check forwards from the cursor, or check a single word. The program runs through the file and collects up all the doubtful words which it highlights one by one in the text.

It then suggests a correction which you can paste in if required, though it's often comically unconnected ('Mr Hamilton' becomes 'Mr Hailstone' for example). You can ask to be shown an extract from LocoSpell's dictionary in the region of the doubtful word should you wish to choose an alternative – you just put the cursor over the one selected and it's automatically pasted in – though you have a variety of options such as editing the doubtful word manually, adding it to the dictionary if it was just one LocoSpell had never seen before, or ignoring it. The dictionary has around 80,000 words and capacity for a few thousand more in the 'user dictionaries' you can create; you'll probably want to add on various trade, personal and place names to the dictionary (especially your own).

A completely error-free 25k file (3500 words) took 7 minutes 29 seconds to check in the M drive and 7 minutes 51 seconds in the A drive. Depending on the number of proper names and typos, checking and amending a normal error-laden 25k file took twelve to twenty minutes. A typical single-page letter takes half a minute or so.

As with any spelling checker, the main use is for weeding out typos rather anything else. Also, any spell checker only proves that the words you've used are recognisable words appearing in its dictionary, and can't check context or syntax. You could write 'colourless green ideas sleep furiously' and it would pass untouched; LocoSpell has never even heard of Noam Chomsky.

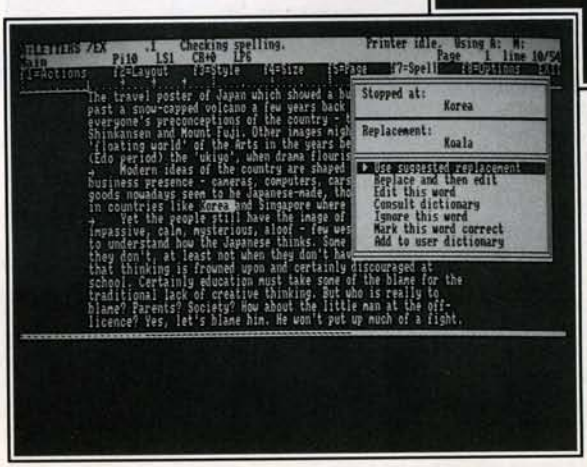
The CP/M disc supplied uses the extra space of the B disc to supply a bagful of extra programs. There are various sample BASIC programs, a number of GSX example files, plus all the utilities that came with the 8000 machines such as BASIC, PIP, RPED, Logo, SID, and so on, but all fitting easily onto the one disc. DISCKIT has been revamped and had its display changed to account for the new keyboard layout.

The manual for your paperless office is a 600 page paperback with a copious index. The well-written LocoScript 2 manual forms the basis of the new manual, and the section on CP/M has been adapted from the old ring binder that came with the 8000 series. It's generally straightforward and clear and written with the beginner in mind – there are constant footnotes telling you what to do if something goes wrong or if something isn't happening that's supposed to be happening, which is always nice to see in a manual. There is, for example, a detailed section on printer problems (stopping a printout when the paper jams, getting an unresponding printer to go) which is one of the most common afflictions of new PCW owners.

One snag with a the manual is its sheer size. It is not spiral bound, and once you have found the correct page it is impossible to lay it flat to study while you work. Maybe one of the myriad printer foot and disc box manufacturers will come up with a clever device for holding the pages open.

Count yourself lucky

There's still no separate word count command, but running LocoSpell through a document results in the number of words in the text being shown on the screen – a boon for authors and anyone writing within set limits.



▲ Directory of the CP/M disc

◀ LocoSpell in action

No trace of an accent

The printer that comes with the PCW 9512 is a daisywheel. This means it's great for producing neat and crisp letters and documents, and quickly too – in fact, much better quality faster than the old 8000's dot matrix printer in NLQ mode. But there are some things it can't do.

The main thing you can't do is graphics. All those pretty DR Logo snowflakes, all your screen dumps, all your desk top publishing and home-designed fonts, are out of the question. If it ain't on the daisywheel, you ain't going to get it.

Flashing before your eyes

There seems to be a very slight flicker on the white screen – this won't affect LocoScript users, but those fond of using a reversed-out screen in CP/M (via the PALETTE command) may find it rather noticeable.

Daisy, Daisy

"jackdaws love my big sphinx of quartz"

▲ 8000 series draft quality

"jackdaws love my big sphinx of quartz"

8000 series high quality ▲

"jackdaws love my big sphinx of quartz"

▲ Prestige 10 (standard)

"jackdaws love my big sphinx of quartz"

Courier 10 ▲

"JACKDAWS LOVE MY BIG SPHINX OF QUARTZ"

▲ Prestige 12

"jackdaws love my big sphinx of quartz"

Orator 10 ▲

"jackdaws love my big sphinx of quartz"

▲ Letter Gothic

"jackdaws love my big sphinx of quartz"

Recta 10 ▲

"jackdaws love my big sphinx of quartz"

▲ Mini Gothic 15

Script 12 ▲

Wheel deals

Extra daisywheels and spare ribbons for the 9512 should be available through all Amstrad dealers. If you can't find one ring the main distributor, Sternstat, on 01-991 1112, who will tell you where to go.

Foreign characters, squiggles, integral signs, black smiling faces and all the other characters lovingly designed by the LocoScript 2 programmers for use on the 8256/8512 are not supported, which is rather a shame since LocoScript can, as readers are no doubt aware, cater for languages as diverse as Welsh, Spanish, Russian, and Mathematics. Simple accents like French acute and grave are not on the standard wheel, although there will be an alternative 'Swiss French' set of wheels available with such accents on. All those italics, half-height, condensed, double-size characters and superscripts go out the window too – all of which is a shame when you think how good LocoScript is at handling all this fancy stuff.

But for most business and formal correspondence purposes the daisywheel's quality is all that matters. It's quick, too: a sample A4 page of double-spaced text printed on the daisywheel took 108 seconds. Compare this to the times for the same page on the 8000 series printer which were 131 secs (high quality) and 53 secs (draft quality). Other brands of dot matrix printer can of course produce faster draft printout still. Having a dot matrix for printing out drafts and internal memos would therefore be handy, and thanks to the built-in Centronics (parallel) interface at the back of the 9512 you can just plug in your other printer and, making the appropriate changes on the f6=Settings menu, away you go.

▲ The 9512 printer can still do text in any pitch (8000 printout above for comparison)

As LocoScript 2 users will be aware, documents are set up to expect a certain printer, which may or may not be the same as the 'current printer', the one the PCW is hooked up to. You can still print out a document set up for the daisy on a dot-matrix, you just get a warning that the types are different before you print.

Pica number

The wheel you get with the printer is a Prestige pica 10 pitch type. You can get various other styles and sizes, eight in all at the moment – Courier, Prestige, Recta and Orator in 10 pitch, Gothic, Prestige and Script (a pseudo-handwritten style) in 12 pitch and 'mini Gothic' in 15 pitch. When a daisywheel is given a number like 'Prestige 12' it means the wheel is designed to be used at 12 pitch. Other pitches *can* be used but the letter spacing might look unnatural.

Unfortunately there's no way of changing wheels in the middle of a document, that is, there's no 'pause' command to allow you to swop the daisy to another style for, say, a paragraph of fifteen-pitch for a quotation in the middle of a twelve-pitch body text.

One grouse: using proportional spacing on the daisywheel seems to give odd results – ms seem to take up far more room than they should, is less than they should; two ms together look much too far apart and two is squashed up. The look of normal 10 or 12 pitch appears more balanced. For proportionally spaced text you really need a specially designed daisywheel which Amstrad, as yet, don't sell.

Mail supremacy

The mailmerger, LocoMail, which comes with the package, enables you to churn out those standard letters you must have received thousands of (Dear Mrs Windsor, Great news! You, Mrs Windsor, have been selected out of all the people in Pall Mall to take part... etc etc) in your time, though you can do it much more subtly and sensibly than those prize-draw circulars.

You make a list in one document of all the names and addresses you want to send letters to (plus some other details such as how well you know them, perhaps) and then create a standard letter in which you put various instructions between the commands (+Mail) and (-Mail) to the mail merger to the effect 'insert the surname here' or 'put the address here'. You can make things conditional for extra flexibility, for example 'print "Mr" and the surname if this is a business acquaintance and the first name if this is a friend', or 'print the next paragraph if the address contains the word London'. The letters are churned out automatically each with the appropriate inserts.

The combination of such a time-saving facility and the elegance of the daisywheel print will probably be one of the strongest selling points of the 9512.

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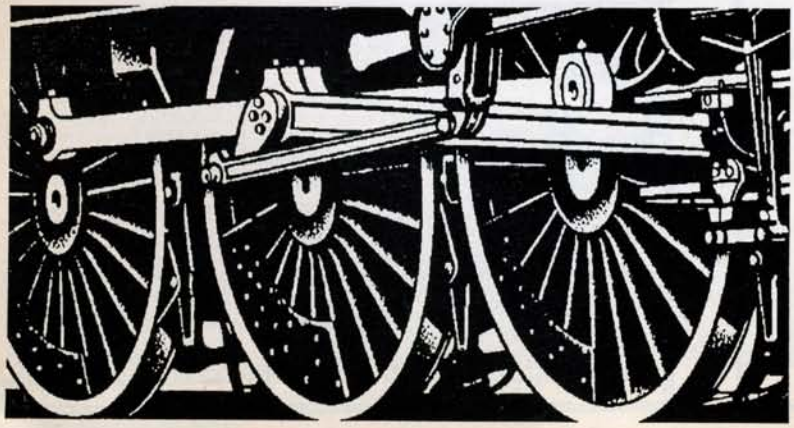

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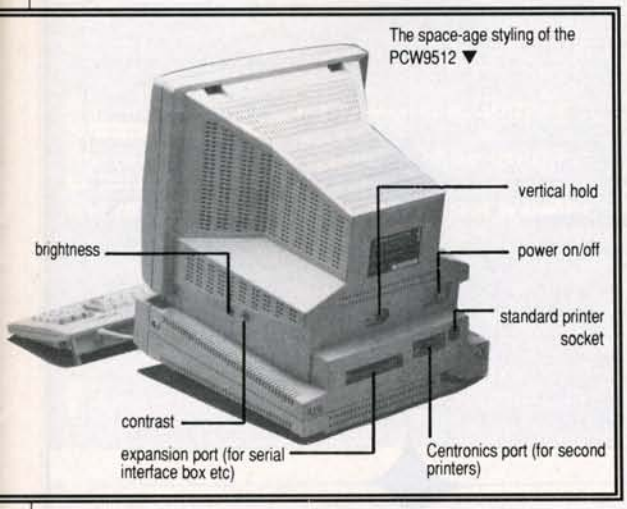
One over the eight?

Though it's tempting to think of the 9512 as an upgraded 8512 it's not really the case. The two machines are very different and which one you choose to buy depends very much on what you're using it for.

At the most basic level, offices would probably want a 9512 and private individuals – writers, journalists, letter writing hobbyists, genealogists et al – would still find the 8000 models better value, especially now that the 8256 can be had for a giveaway £299 plus vat (£343.85) and the 8512 for £399 plus vat (£458.85).

However, anyone using their machine exclusively for word processing, especially where quality output is essential, would have no real reason for not buying the 9512; in fact, having the mailmerger and spell checker (and even the parallel interface) for free means it costs about the same as buying an 8512 and then adding LocoMail and LocoSpell later. But if you want to get graphics, different text sizes (for your desk top publishing and newsletters) or foreign language sets (fancy accents, Cyrillic, Greek, mathematical work) out of your word processor then the 9512 is not really much use and it's the 8000 machines you want.



Have your cake and eat it

But nothing in life is that simple and maybe you want the best of both worlds – good quality daisywheel printout for your important business stuff but also the facility for quick drafts, fancy layouts and graphics that the dot matrix printer gives you. Perhaps you want to use a modem, in which case you need a serial interface, which the 9512 doesn't have. So, to help you decide which combination best suits your needs, here's the definitive chart of what costs what. Remember that the PCW 9512 includes LocoMail and LocoSpell and parallel (not serial) interface to connect to other printers. (All prices include VAT and are to the nearest £10).

8256 (inc. dot matrix)	£340
8512 (inc. dot matrix)	£460
LocoMail	£40
LocoSpell	£40
Cheap daisywheel printer	£190
Serial/Parallel interface	£60
9512 (inc. LocoMail/Spell, daisywheel, parallel interface)	£570
Cheap dot matrix printer	£150

A bit of basic arithmetic comes up with the following conclusions:

– 8256 plus LocoMail, LocoSpell, serial/parallel interface and cheap daisywheel printer £670

PCW 9512 Vital statistics

PRICE
£573.85 inc. VAT

SCREEN
White on black non–reflective glass, 90 columns by 32 rows. 720 by 256 pixels in graphics mode.

STORAGE
Single 3" floppy disc drive, 720k storage capacity. Second drive available at extra cost.

MEMORY
512k RAM, giving a 368k M: drive in CP/M or 110k in LocoScript (more if the dictionary is erased).

WORD PROCESSING SOFTWARE
LocoScript 2, LocoMail mail merger, LocoSpell spell checker.

OTHER SOFTWARE
CP/M version 3 (CP/M Plus). Includes CP/M utilities programs and Mallard BASIC, Dr. Logo languages.

PRINTER
13" wide platen Daisywheel, claimed speed 20 characters per second (nearer 13 cps on average documents). Single sheet autoloading or continuous stationery tractor feeder. Multistrike carbon film ribbon, interchangeable print wheels. Prestige pica 10 pitch wheel as standard.

EXTERNAL INTERFACES
Parallel (Centronics) interface. Expansion connector for serial interface unit.

– 8512 plus LocoMail, LocoSpell, serial/parallel interface and cheap daisywheel printer £790

– 9512 plus cheap dot matrix printer £720

Note that an unexpanded 8256 doesn't have enough memory to hold all of LocoSpell's dictionary. You can expand the 8256 memory yourself for £20. The 9512 comes with a parallel interface suitable for connecting to another printer, if you want to use a modem or other communications software you will still need to spend the £60 on a serial interface unit.

The bottom line

The 9512 is an excellent machine. It combines professional, high quality printing with all the benefits of word processing; its built-in spell checker should make letters going out with ugly corrections in biro a thing of the past; its built-in mailmerger enables professional looking mailshots to be done in a fraction of the time it would take on a battery of typewriters. One day we'll all fall about laughing as we remember the old days of correcting fluid, dictionaries, and laboriously typed letters.

The workings of LocoScript 2, the spell checker and mail merger take time to learn, but it's certainly one of the best word processors, if not the best, for novices. Apart from paid-up members of the Ned Ludd fan club and shareholders in typewriter companies, it's hard to see who wouldn't find the 9512 an essential part of their office system. At under five hundred pounds plus VAT, this must mark the beginning of the end for the electric typewriter. EXIT

PLUSES
- Excellent quality print
- Spell checker and mail merger included
- Discs can take over 700k
- Extra printer interface built in
- 8256/8512 programs and data can be run unchanged

MINUSES
- Can't print graphics (although the screen can still display them)
- No accents, italics etc on the standard printwheel
- Can't pause printing to change daisywheel style

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Amsoft CF2 per 10	£23.95
Amsoft CF2 per 5	£12.95
Maxwell CF2 per 10	£22.95
Maxwell CF2 per 5	£12.49

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Desktop Publisher	£23.95
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E. Studio font module	£18.40
Graphics op. system	£58.95

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Pocket Wordstar Deluxe	£56.66
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Arnor Prospell	£22.95
Amsoft Locospell	£29.95
Taspell 8000	£12.85
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Tasprint 8000	£11.95
Locoscript 2	£19.49

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Caxton Scratchpad	£44.95
Rotate (sideways print)	£18.95

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DR Graph	£ 39.00
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Signwriter PCW	£ 39.96
Extra fonts for above	£ 5.75

9512 software phone for prices

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9512 software phone for prices

Communications

Sage Chit Chat Combo (inc modem)	£209.99
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Sage Chit Chat VData	£ 55.99
Miracle WS4000 modem	£179.40
Pace Linnet modem	£147.95

9512 Comms phone for prices

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(Which report recommended buy)	
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Micro P. MP40 daisywheel	£379.50
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THE GREAT ESCAPE

Fed up with always doing what your PCW tells you? Depressed with the fact every time a program snarls "Pick an option" or "Press any key to continue" you have to jump to comply? Now is your chance to get your own back and tell the PCW what to do. All you need to do is to learn a long and eminently forgettable list of hieroglyphics called Escape Codes. Alec Rae gives a few hints to help you get the upper hand.

Before we start let's dispense with all the jokes about Colditz. Many people have tried to explain why Escape Codes are called Escape Codes but its easier just to accept the fact and get on with it.

It is not much easier understanding what they are. In simple terms you use them when you want the screen or the printer to do something. If you want to clear the screen or display something in reverse (black on green) you use an Escape Code. If you want to print your text condensed or underlined just rack your brains for the suitable obscure series of letters and numbers.

People who have dabbled with BASIC may know escape codes already. They are the bits of BASIC that usually start CHR$(27) with a letter or number and if you try to produce any fancy output from BASIC you are bound to come across them.

Soul of a machine

Imagine what happens when you print some text on the screen. Behind the scenes, the PCW sends a stream of characters from its main processor over to the part that controls what is on the screen. Mostly, whenever the screen controller receives a character it just displays it at the next character position on the screen. However, some characters are special and say to the screen controller, "Wait! Don't just print this character, do something special instead." The 'something special' might be starting a new line or clearing the screen, for example.

```
Ok
PRINT CHR$(27)+"p";"This gives you reverse video";CHR$(27)+"q"
This gives you reverse video
Ok
PRINT CHR$(27)+"r";"And this underlines everything";CHR$(27)+"u"
And this underlines everything
Ok
PRINT CHR$(27)+"Y"+CHR$(50)+CHR$(60);"And this could be anywhere

                    And this could be anywhere
Ok
```

▲ A few screen commands in BASIC and their effect

The most important special character is known as the 'Escape' character. When the screen controller sees Escape in the incoming stream of characters it knows that the next few characters will contain some command and should not be printed literally. To understand what you can do you will need to understand a little about what 'ASCII codes' are.

Under the ASCII system every character such as alphabetic letters, punctuation marks and digits is represented by a standard number code between 32 and 127 called (surprise, surprise) its ASCII code. For instance, every program should recognise number 65 as a capital A. A list of the complete codes are given on pages 113 to 118 of your CP/M manual.

Codes from 0 to 31 are reserved for special screen commands like doing carriage returns of making the beeper sound. A so-called 'ASCII file' is merely a file which conforms to these conventions and so can be read by any program. LocoScript documents are not ASCII files.

BASIC talk

If you have ever done any BASIC programming you will have come across the CHR$ function in print statements, and this is tied in with ASCII codes very closely. If you write a PRINT statement such as

```
PRINT CHR$(65)
```

you will see the character A appear on the screen. CHR$ (in a PRINT statement) sends the number you give it to the screen as an ASCII code, and as revealed earlier 65 comes out as A.

One of the most useful commands to remember is

```
PRINT CHR$(27)+"E"+CHR$(27)+"H"
```

which clears the screen. CHR$(27) sends the 'Escape code' to the screen, and the following "E" or "H" respectively clear the screen and send the cursor up to the top left corner.

The key to the escape codes for controlling the screen lies secreted away in the 'Terminal Characteristics' section at the back of the CP/M manual (pages 140/141 in the 8256 manual). If the manual says you can do something with the Escape sequence `ESC p` it just means that you should send CHR$(27) followed by "p", ie. in BASIC you would type

```
PRINT CHR$(27)+"p"
```

Normally in BASIC it doesn't matter whether you use upper of lower case but with escape codes it *does* matter – P and p are different.

All this and CP/M too

Of course it isn't only from BASIC that these screen control commands are useful. To make the screen do your bidding all you have to do is find *some* way of sending it the ASCII codes in question. Using BASIC's PRINT statement is one way, another is to create a file on your disc containing the codes and then, at CP/M's A> prompt, use the command

```
TYPE filename
```

The only problem is how to create a file containing ASCII

Crystal clear

For those who like to know the meaning of every acronym, ASCII stands for American Standard Code for Information Interchange. To prove you are clever you should pronounce this "asskey"; saying "A.S.C. 2" is a dead giveaway that you are a novice.

The devil's alternative

The principle of Escape codes can be used directly from CP/M without having to create files or use BASIC at all. CP/M on the PCW is set up so that the [EXIT] key sends the code for Escape. On many computers, such as the IBM PC, the key that corresponds to [EXIT] is actually marked [ESC] for Escape.

If, at the A> prompt, you type [EXIT] `E` [EXIT] `H` the screen magically clears. This is the same as the `CHR$(27)+"E"+CHR$(27)+"H"` you see in virtually every BASIC program when you want to clear the screen.

What has happened is that if you give any command to CP/M that it does not understand it will just echo back what you have just written with a question mark. (This happens if you have the wrong disc in the drive when you try to run a program: how often have you tried to run PIP and got `PIP?` in reply?)

If you type [EXIT] `E` [EXIT] `H` [RETURN] the PCW doesn't understand and echoes back Escape E Escape H?. This the PCW screen does recognise as the Escape sequence to erase everything on the screen and then leave a question mark there.

Smart ideas

It's a bit difficult to extract the really useful control codes from amongst the general ones, so here are the Top Ten Escape Sequences. They are presented as if typed from BASIC.

`PRINT CHR$(27)+"E"+CHR$(27)+"H"` – clear the screen

`PRINT CHR$(27)+"Y"+CHR$(32+r)+CHR$(32+c)` – sends the screen cursor to row r, column c

`LPRINT CHR$(27)+"R"+CHR$(0)` – sets the printer to US characters so £ comes out as #

`LPRINT CHR$(27)+"d"` – makes the current settings the default so a printer reset doesn't lose them

`PRINT CHR$(27)+"p"` – enters reverse video screen printing

`PRINT CHR$(27)+"q"` – returns to normal screen printing

`PRINT CHR$(7)` – sounds the PCW beeper

`LPRINT CHR$(27)+"m"+CHR$(1)` – enters high quality print mode

`LPRINT CHR$(27)+"E"` – starts bold printing

`LPRINT CHR$(27)+"p"+CHR$(1)` – starts proportional spaced printing

codes such as 27, 1 and 0. Any codes below 32 you simply can't type at the keyboard (well, not easily anyway). The answer is to use our quick create-an-escape-sequence-file BASIC program shown in the box.

Then if you want to use reverse video (black on green) for text create a file called REV (for example) with the correct codes in it (`ESC p`, so type `N 27 L p` at the prompts). Write `TYPE REV` and everything printed on the screen after that is in Reverse Video.

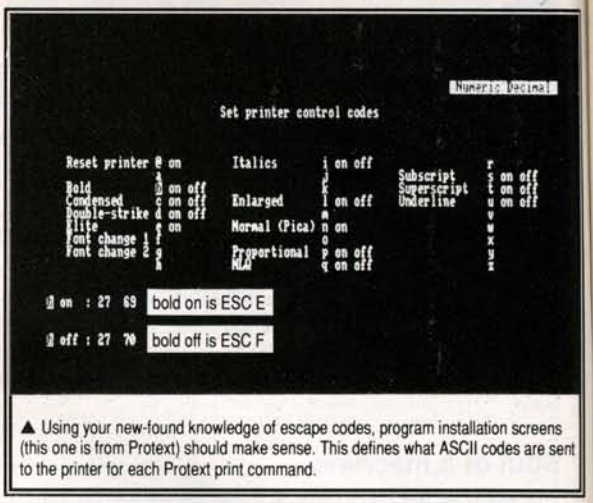
"I talk to the printer....

As well as telling the screen what to do, Escape codes can also be used to tell the printer what to do.

In the same way that the screen interprets certain sequences of characters (usually beginning with Escape, ASCII code 27) as instruction to do something, the printer also responds to Escape sequences. By sending the right codes you can make the printer change from high quality to draft, into bold, italic, enlarged or whatever you like.

Many commercial programs (like word processors) allow you to control print styles. If you put a 'bold' command in your wordprocessed text what happens is that when it comes to print out the program looks up the escape code for bold and sends it to the printer at that point.

You can experiment with the printer control codes from BASIC using the LPRINT statement. All the codes that the PCW printer will respond to are given in the back of the CP/M manual, pages 126 to 137 for 8000 series owners.



▲ Using your new-found knowledge of escape codes, program installation screens (this one is from Protext) should make sense. This defines what ASCII codes are sent to the printer for each Protext print command.

Typically you will see an entry telling you that to change to bold text is `ESC E`, or that italic is `ESC 4`. Some entries have three items, for instance to go from draft to high quality is `ESC m 1`. Some only have one, like to backspace is `BS` with `(8)` added later.

Remembering that ESC is CHR$(27), in BASIC you do each of these examples as follows:

```
LPRINT CHR$(27)+"E"
LPRINT CHR$(27)+"4"
LPRINT CHR$(27)+"m"+CHR$(1)
LPRINT CHR$(8)
```

To explain, for `ESC` always send ASCII code 27. Always send the second item in the sequence as a literal character, "E", "4" or "m". If there is a final digit – usually 0 or 1 – send that as a CHR$ code. If there is only a single item, called BS or DC4 or something meaningless with a number in brackets after it, send only the number as a CHR$ code.

As with the screen control examples the best way to send escape codes to the printer is to make up a file containing the codes with the help of the BASIC file creator program shown in the box.

If you want to set your printer up to use condensed text at 8 lines per inch, you look up in the manual that the code for condensed is `SI (15)` and for 8 lines per inch is `ESC 0`. Using the BASIC program as described, pick a file name like COND and then you will need to do `N 15 N 27 L 0 E`, each separated by a [RETURN] after each reply to a prompt of course.

Now you need to use CP/M to send the file COND to the printer. The best way of doing this is to use PIP by saying

```
PIP LPT:=COND
```

(this assumes you have PIP.COM on the same disc as your newly created COND file). All text printed subsequently will be in this condensed close-spaced format.

The best way to return to normal type on the printer is to use the [PTR] key and the select the RESET option on the status line.

EXIT

```
LPRINT CHR$(27)+"m"+CHR$(1);"This prints out in High Quality text"
Ok
This prints out in High Quality text
LPRINT CHR$(27)+"4";"And this turns on italics";CHR$(27)+"5"
Ok
And this turns on italics
LPRINT CHR$(15)"Condensed text is as easy as you can get";CHR$(18)
Ok
Condensed text is as easy as you can get
LPRINT CHR$(14);"As is enlarged text";CHR$(20)
Ok
As is enlarged text
```

▲ Sending Escape codes to the printer from BASIC, and the results

8000 Plus Patent Code File Maker

Here, free with 8000 Plus, is the simplest way to create files containing any of these wonderful escape codes. Type the program in BASIC (instructions for using BASIC are on our Listings pages if you aren't sure what to do) and save it. When you run it, it will ask for a file name. If you are going to create a file to set up all text to be underlined, use something you will remember – UNDER for example.

You are then asked whether you are going to type in a number, letter or if you want to end. Type N, L or E and press [RETURN]. You are then asked for the number or letter in question. Type it, press [RETURN], the program will write it to the file and ask for the next.

So for a file to underline text on screen (the manual reveals that `ESC r` is the secret code needed) enter `N` [RETURN] `27` [RETURN] for ESC, then `L` [RETURN] `r` [RETURN], and finally `E` to end. To use it type `TYPE UNDER` to CP/M. The back-to-normal file to stop underlining needs `ESC u`.

```
10 INPUT "Filename";f$
20 OPEN "O",1,f$
30 INPUT "Number, Letter or End (N,
L or E)";c$
40 c$=UPPER$(c$)
50 IF c$="E" THEN CLOSE #1:END
60 INPUT "Type the number or
letter";d$
70 d=VAL(d$)
80 IF c$="N" THEN PRINT #1,CHR$(d);
90 IF c$="L" THEN PRINT #1,d$;
100 GOTO 30
```

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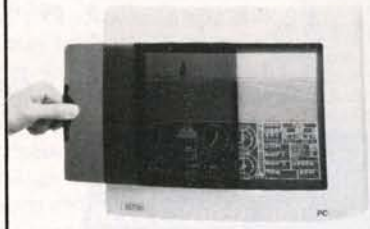

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GYM'LL FIX IT

Visitors to Alan King's Fitness Centre are now being given hi-tech treatment, courtesy of his PCW

Down in the depths of Somerset (well, Avon actually, but to most zummerset born-and-bred yokels there never has been a County boundary change) something is stirring. The Worle Fitness and Leisure Centre near Weston Super Mare in "Avon" has, because of the advent of the computer age and in particular the PCW, moved from the lardthumpinmusclecreakinsweatmakin image of many gyms into a new era.

Almost a year after opening the Fitness Centre I ventured, with a little prodding from a 'compufiend' acquaintance of mine, into the world of computers. I could say that what prompted me to go for the 8256 was the word processor that a child could operate (nothing about adults though!) or the NLQ printer, but in actual fact it was... price! I would go so far as to say that there was nothing on the market at that time, or since for that matter, that can compare for value for money.

Now as any user will tell you, the initial honeymoon of seeing the printer put on paper the very words *you* typed soon fades and the yearning for pastures new sets in. So it was with me. After all, there are only so many letters you can write, particularly begging ones.

Therefore, my next project was to use the beast for keeping track of memberships and renewals and other sundry objectives that are intended to keep you one step ahead of the debt collector. Now, where some people will plan their next moves with military precision and forethought, I tend to jump in with both feet. It may not be good business practice but it does make for some interesting consequences. So it was with selecting the right software; whereas I should have sat down and listed the main objectives, instead I glanced through the computer rags (8000 Plus was not available at that time, I hasten to add!) and, again with brain in neutral and feet in gear, I purchased Quest's Matchbox which I thought would be ideal.

As a basic cardfile system it was fine and for a time I revelled in searching for obscure details such as 'How many renewals are due in April' or 'Are there any electricians on file that can be coerced into wiring an extension for the

▲ The fitness tester program weighing everything up

Amstrad'; all very handy but I still had to transfer individual details by hand to the standard letter informing members that subs where overdue and failure to pay meant a midnight swim with concrete boots!

What I needed was a system that allowed merging from one file holding details of members to another containing the standard letter. There were of course numerous packages on offer, some costing an arm and a leg. Then along came the Locomotive mailmerge: LocoMail.

The answer to my prayers! A full merge and fill system with basic arithmetic functions and conditional text movement (and cheap!). The world was my oyster! After the now familiar treasure hunt through the manual I at least succeeded in producing a mailmerged letter. In the process my receptionists received a thorough re-education in the Anglo-Saxon idiom. But now members old and new get beautifully edited letters from all directions. What next, indeed! As always, onward and upward if only to keep one step ahead.

Doing the groundwork

As I mentioned before, I run a health and fitness centre and some of the many questions asked by my members include "How fat am I?" Now there are numerous bespoke systems on offer to fitness clubs but the problem with all of them is cost (£450 plus). The salesmen/ladies are quick to point out that if you test x number of people at £20-30 a time you will recoup your outlay in no time at all or sooner. What they fail to mention is that 90% of the population do not wish to spend out that sort of fee to confirm what they suspect in the first place: that they are fat and unfit!

What was needed was a relatively inexpensive system that would allow free testing or at worst a minimal charge. As I already had the hardware in the 8256 I decided to utilise the already existing protocols for determining fitness levels and body fat calculations. These protocols can be found in numerous erudite tomes (heavy reading books to you). For instance did you know that the traditional height/weight charts that indicate what your ideal weight should be are only accurate for approximately 30% of the population. To prove this, according to the standard height/weight charts I am at my ideal weight except I should be 8ft 6in.

▲ The PCW doing its stuff in the depths of the Worle Fitness Centre

One method available that is accurate is based on the individual's bodyfat percentage. For a healthy body one must have a certain amount of bodyfat, and this percentage is dependent on age and sex, not height or frame size. Typically, a woman of 35 should have a bodyfat percentage approaching 23%. Using special calipers to measure the thickness of fat at key points of the body, the total percentage of bodyfat can be calculated using available

Bespoke benefits

A 'compufiend' of the first order, my friend Mike Blackwell specialises in writing PCW programs that are not readily available 'off the shelf'. He has written several applications designed to assist the administration and running of small motor trade businesses, vehicle fleet management, and even a package to monitor a football pools syndicate.

He works on the sound principle that most people who run a small business have probably spent many years putting together a manual system that suits them, and the last thing they want is to have to learn how to use somebody else's idea of a 'perfect' stock control or invoicing system *as well as* getting to grips with a technology which in most cases is totally alien to them.

Mike took Maggie's advice a year ago and started up a small business supplying hardware, programming and backup services to PCW users. This kind of personalised service seems well worth the money for any business looking to computerise painlessly (was that a good enough plug, Mike?)

```
                Worle Fitness & Leisure Centre
                FITNESS EVALUATION PROGRAM

**********************************************************************
DATE: Tuesday 30th June 1987          ADDRESS: ANYHOME
NAME: Mr  A BODY                               ANY STREET
 AGE: 30                                       ANY TOWN

TESTER: ALAN
**********************************************************************

                        PHYSICAL MEASUREMENTS
                                                      LEFT    RIGHT
HEIGHT: 6 feet 1 ins    DEFLATED CHEST: 40.6 in  UPPER ARM: 12.6 in  12.6 in
 FRAME: MEDIUM          INFLATED CHEST: 42.9 in    FOREARM: 11.0 in  11.0 in
                                HIPS: 42.1 in      THIGH: 22.0 in  21.7 in
                               WAIST: 37.0 in       CALF: 16.1 in  15.7 in


                        SKINFOLD MEASUREMENTS
      BICEPS:  6 mm   THE IDEAL PERCENTAGE BODYFAT FOR YOUR AGE IS 11 to 17 %
     TRICEPS: 10 mm            YOUR TOTAL PERCENTAGE BODYFAT IS  26.7 %
SUBSCAPULARIS: 16 mm
  SUPRAILIAC: 35 mm
       TOTAL: 67 mm


                        BODYWEIGHT DETAILS
    YOUR IDEAL BODYWEIGHT IS 11 st 12 lbs
    YOUR TOTAL BODYWEIGHT IS 13 st  6 lbs
YOUR TOTAL BODYFAT WEIGHT IS  3 st  8 lbs
    YOUR LEAN BODYWEIGHT IS  9 st 12 lbs

YOU NEED TO DECREASE YOUR WEIGHT BY APPROXIMATELY 22.22 lbs


                    PHYSIOLOGICAL MEASUREMENTS
                       RESTING        WORKING        TARGET
          HEART RATE:  62             155            137-166
       BLOOD PRESSURE: 115 /73        128 / 87
       PULSE PRESSURE: 42  Resting    41  Working
       YOUR RESTING BLOOD PRESSURE IS  NORMAL


                        FLEXIBILITY TEST
YOUR test score was  39 cm. RATING:  AVERAGE
                FLEXIBILITY TEST COMPARISON CHART
        AGE      Poor    Fair    Average    Good    Excellent
        -35       18      25       38        48       53


                    ESTIMATION OF FITNESS - (VO2 Max)
WORKING HEART RATE: 155
    FINAL LOADING: 150 Watts
  AEROBIC CAPACITY: 2.8 LITRES PER MINUTE
   CONDITION INDEX: 32
TAKING INTO ACCOUNT YOUR AGE AT  30  YEARS AND YOUR BODYWEIGHT AT 13 st  6 lbs
YOUR FITNESS RATING IS  VERY  POOR
                CONDITION INDEX COMPARISON CHART
      AGE     Very Poor    Poor    Average    Good   Excellent
     30-39      - 34      35-39     40-47     48-51     52 -


                Your next test is due on ..............
```

▲ Computer printouts always look convincing, even if the result is 'Very Poor'. Customers get this as a fitness report.

formulae. It is interesting to note that since we began using the bodyfat calculations, we have found that height/weight calculations tend to underestimate the subjects' ideal weight thus making them think they have to lose more weight than they actually need to.

Programming exercise

A new, uncharted world was now beckoning. Full of CP/M, BASIC, GOTOs GOSUBs, bytes and the inevitable 'crash'es. I had jumped, with both feet again, into the world of programming.

After a lot of research and numerous letters to august bodies to verify the data needed to perform the calculations I was ready to create the Mk 1 version. After countless nights and some days hunched over the red hot keyboard (I was almost divorced on the grounds of 'electronic infidelity') the first problem I encountered apart from the usual programming mistakes was that I ran out of memory – there were an awful lot of IF-THENs. It was then I realised the existence of DIM (like me) statements. After a major rewrite, Mk 2 was ready for testing. It worked quite well, but not exactly as I had envisaged. At this point a friendly computer programmer in the form of Mike Blackwell of Databus (Avon) based in Weston, came to my aid.

After a great deal of snivelling and pleading on my part, Mike agreed to have a look at my original program. Holding it at arm's length and between thumb and forefinger he descended into the bowels of his den to work on an improved version rewritten using CBASIC – a speeded up version of BASIC which is compiled.

End of the heartache

The result was a very elegant program. Coupled with a digital blood pressure meter, a digital heart rate meter, Skinfold calipers and a stationary exercise bike for carrying out the actual fitness test, it enabled us to achieve our goal of offering a computerised fitness test and bodyfat analysis at a fraction of the cost of the commercially available systems. Because of the relative low cost I can now give all new members a free fitness test and bodyfat analysis thus giving them a benchmark of their present levels to, say, compare with a retest in a further six months to show any gains in fitness and physique.

The program doesn't stop there. There's now a file management system to keep track of membership renewals, fitness test renewals, birth dates etc. Emphasis has been placed on ease of use and the whole package is menu driven, making my original program look positively user-hostile. The system isn't seen as being in its final state (then what system ever is!) but at the moment it is complete and the next step is to look at the prospects of marketing the system.

I am now in the process of developing a program for use in the weight training room. The reason behind this particular program is not that I want to make things easier for myself or my staff (heaven forbid) but, because of the question it asks the program makes the subject think more deeply about his or her objectives. For instance, a large portion of the program is dedicated to lifestyle and the results should at least make them more aware of the way they live and the possibility of making changes. The program is not intended to replace the fitness instructor but to aid him or her in selecting the correct procedures for each person.

To date I have written a program that can indicate a person's stress factor in relation to Coronary Heart Disease. Regardless of the amount of fatty foods eaten and cigarettes smoked, it is an almost universally recognised fact that stress is one of the prime factors that causes C.H.D. in the 30 to 50 age group. The program determines, with selected questions, the subject's risk factor. I have come to the conclusion that PCW users probably come fairly high on the scale judging from my own experience of spending hours writing a program and then saving it, only to realise just after I press the power switch to turn off the computer that I saved the program to M drive.

Of course, things like that do not happen to professional programmers, or so Mike tells me, but judging from his wild, staring expression and the steam escaping from both ears (he's very level headed) I cannot help but wonder.

So to all PCW users let it be said there is life after LocoScript. That is if you are prepared for sleepless nights, zombie staring eyes and messages pinned to your door saying "If you want to INPUT your dinner THEN you GOSUB kitchen ELSE GOTO dustbin!"

EXIT

Are you a case?

Has your PCW revolutionised your life? Traumatised it? 'Case in Point' is a regular feature of of 8000 Plus and we are looking for readers with interesting experiences to relate. If you use your PCW for something more than just LocoScript, why not share your thoughts with a waiting world?

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A124

PROTEXT MARCH

Part 2 of the trek towards Protext. Rob Ainsley acts as native guide.

By now you may well know how to handle blocks, how to find and exchange, and how to use phrases. Protext does all this – and much, much more.....

One of the best features of LocoScript is the use of those keys on the right hand side of the keyboard. Some word processors expect you to remember that CUT is [SHIFT][ALT]-J and PASTE is [EXTRA][TAB]-@ twice or something equally obvious. LocoScript keeps things blissfully simple – CUT is the [CUT] key, PASTE is [PASTE], etc, making it easy to mark out blocks of text for copying, deleting or moving around. In Protext, the keys are thoughtfully configured to work the same way. All you do is mark the beginning and end of the block of text to be cut, copied etc. by pressing [SHIFT]+[+] at the beginning and end of it.

You'll see two reverse video square brackets appear at those points – the whole block isn't highlighted as in LocoScript. Then you can CUT it, PASTE (move) it to the position of the cursor somewhere else, or COPY it.

When you copy, the copied block appears below the original, flanked by those brackets. If you want you can then move the copied block to a new position by the paste key. To get rid of the brackets you can just delete them like any other character, or remove them at a stroke by pressing the [CAN] key.

The buffer solution

A neat feature is that when you cut a block or delete text, it gets stored in a temporary buffer and can be brought back if you realise you made a mistake. Merely by pressing [ALT]U the most recently deleted text reappears. If you try to delete a block too large for the buffer (a medium-sized paragraph), Protext asks for confirmation before consigning the block to oblivion. You can increase the buffer size in the CONFIG program.

▲ Typical phrase files being loaded

For columnists

For many applications two column printing gives a snappy and professional look. In Protext you can achieve this easily using the 'box' mode of block transfer. First lay out your text with margins just under half as wide as the width of the page. Then select 'box' mode by pressing [ALT]+B and put block markers at the beginning of the line at the half-way mark and at the bottom right-hand corner of the last line. Move the cursor to the top line, press [ALT]+R to restore the original width margins, put the cursor where the top right hand corner of the right-hand column is to go, and PASTE. You should now have two neatly lined up columns, though don't try any further formatting or you might mess things up – also it seems to work best with justification off. To go back to the normal method of block transfer, press [ALT]+B again.

To coin a phrase

Like LocoScript, Protext can hold a number of phrases and assign them to various letters, though you get them by pressing [EXTRA] and the letter rather than the [PASTE] key. Suppose you want to create a set of phrases for your estate agency, as in the LocoScript example disc, so that A holds 'convenient for buses and shops', B 'surprisingly spacious', etc. While in command mode enter:

```
phrase a "convenient for buses and shops"
phrase b "surprisingly spacious"
```

and so on. From then on (until you switch off) pressing [EXTRA] and the letter would produce the phrase specified.

Great. But you probably want to save this set for future use. To do this, create a normal file called, say `house.phr` which contains all these command lines just as you would

Zap

Handy features of Protext: [SHIFT][DEL] deletes whole words at a time, [ALT][DEL(right)] deletes from the cursor to the end of the line, [ALT][DEL(left)] deletes from the beginning of the line to the cursor,and [ALT][CAN] zaps entire lines.

Executive management

X stands for 'execute', and the files which are executed are called 'exec' files. They're created as normal files, but when you type `x` (or `exec`) and the filename from command mode, Protext takes each line of the file as if it were a command typed in at the keyboard. This has a million and one uses as you can perform any batch of commands you do regularly at a stroke. Suppose you regularly back up all your document files by copying all `*.doc` files from your work disc to your backup disc via the memory. Create a file `backup` containing:

```
copy m:=a:*.dat
;insert back up disc and hit any key
pause
copy a:=m:*.dat
```

making sure the last line finishes with a [RETURN]. Then by entering `x backup` it will all happen automatically. The semicolon in line two is used for comments or screen instructions and makes the line have no other effect other than to print the line on the screen as a message for the user at the right point. The 'pause' command suitably enough pauses the action until a key is pressed, when the phantom typist resumes.

Any file called `exfile` is run automatically on Protext starting up. You can use this to set the key combination [EXTRA]C to return the command `count`, so saving you typing out the word every time you want to find out if you've written enough. Create a file `exfile` consisting of

```
phrase c "count↑13↑"[RETURN]
```

– the ↑13↑ is the code which makes a [RETURN] part of the phrase, which is necessary for Protext to actually execute the command (just like when you type at the keyboard).

enter them in command mode.

In command mode (at the a> prompt) type `x house.phr` and you'll see all the lines magically being entered as if you were typing them in at the keyboard. When it's finished you can use all the phrases as normal ([EXTRA] and the letter).

This means you can have several phrases files. Say you've set up another called `truth.phr` as above, with phrases for the same house descriptions for your own records, viz

```
phrase a "extremely noisy"
phrase b "small and cramped"
```

etc. You switch over to this set by typing `x truth.phr`. The commands will appear as before and from now on [EXTRA]A gives you "extremely noisy", and so on. There's a limit to the total size of a phrases file, but it is possible to alter this using the CONFIG utility (option 4). If you get a "phrase too long" message it means you have reached the limit. If you are not using some phrases you can create extra space by setting these to contain nothing – `phrase c ""`

Exchange & mart

The FIND and EXCHANGE (or 'REPLACE' in Protextspeak) key works just the same as in LocoScript. You're asked for the phrase to find and the one to replace it with. Suppose you're looking over a few of your house descriptions written by one of your new employees; you want to replace all occurrences of 'cramped' by 'compact', 'old' by 'period', and 'dilapidated' by 'ripe for development'.

With your document loaded and the cursor at the top hit [EXCH] and you are returned to command mode with a

▲ About to CUT the block between brackets

suitable prompt. Enter `cramped` as the string to find and `compact` as the one to replace it. Now you're offered a gaggle of options. The simplest thing is to remember the old Protext maxim 'when in doubt press [RETURN]'. You'll be escorted through the document from the position of the cursor and asked if you want to replace each occurrence of 'cramped' – press y for yes, n for no. Remember this won't affect the file on disc until you `save` the document, of course.

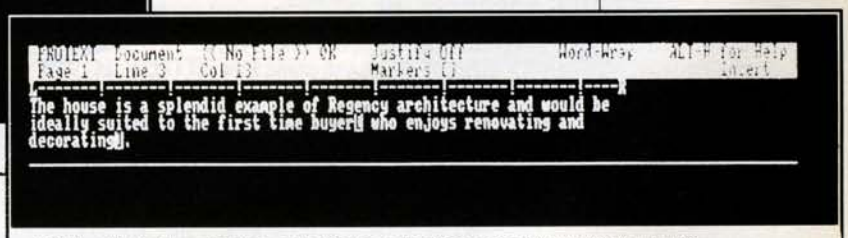
Optional extras (A,B,C,G,W,n)

The options are useful however. Pick A and the changes will be done automatically, ie. Protext won't pause to ask you whether you want an instance changed, it'll just do it anyway. This can be dangerous. Pick B and the changes will be done backwards from the position of the cursor instead of down; C and only words corresponding exactly to the given word will be found ('case-specific' – ie, it' could find LocoScript ignoring locoscript and Locoscript); G and the replacing will be done 'globally', ie throughout the entire document.

Enter W and only whole words will be searched out (if you don't select option w and replaced 'old' by 'period' automatically you might find that 'Oldham' and 'wolds' had changed to 'periodham' and 'wperiods'). Finally, n means a number. If you write 3 it will change every 3rd occurrence and 9 changes every 9th. You can also use 'wildcards' which means that including a ? in the phrase to be found stands for any letter at all.

Any combination of these options can be used. So, for example, replacing "Chairman" by "Chairperson" `ag` would replace all such instances in the document automatically. Swapping "he" with "he or she" `bwc` would ask for confirmation of each exchange (sometimes it might be inappropriate – fathers, for example, are usually he's), go upwards from the cursor, look only for whole words, and ignore "He" or "HE".

If you just want to find a word or phrase the [FIND] key has the same range of options. Give `????` as your string to find with options wg and all the four-letter words in your document will be pointed out. Selecting `ag` as an option would in effect count every occurrences of the item. Do this on your house description data file to find the number of studio flats, ([FIND] studio flat `ag`) for example.



▲ Putting all italics into underlinings, and finding the number of properties suitable for first time buyers

Control printer controls

Although the obvious use of [FIND] and [EXCHANGE] is looking for words, the most useful and powerful applications are probably for formatting. Suppose you want to replace italic commands by underline for printing out a manuscript (which is how editors usually prefer things). In LocoScript you can't do it, but in Protext, printer control codes can be found and exchanged.

This requires the use of a special signal to Protext – an 'escape character' as the jargon has it. Protext uses the exclamation mark as its escape character. You know how to put printer codes into a document by [ALT]X followed by a letter (b for bold, i for italic etc) – well you can look for these codes by the text `!b`, `!i` etc respectively.

So, if you replace `!i` by `!u` with the options `ag`, all the reversed out i's, which turn italics on and off, will be wiped off the map, and replaced by underline codes.

One problem is that because ! and ? are special characters you can't use them as simple text – you must precede them by an exclamation mark if you want them to be taken literally. If you want to weed out all the question marks and exclamation marks from a piece you would FIND `!?` and `!!`.

Another useful special character you can search for with FIND and EXCHANGE is the code for [RETURN], which is effectively the end-of-paragraph marker. `!.` in text means a [RETURN] code, so if you exchanged `!.` for `!.!.` you would insert an extra blank line between all paragraphs.

As the command to turn italics on is the same as to turn italics off in Protext, it's easy to miss one out somewhere and find all the document is printing out in italics except the words which should be. A neat way of checking that all italics are turned off would be to FIND `!i` and specify `2g` as your option – every second code will be rooted out, and you can check they're always the other half of a pair.

A load of blocks

While there's no direct equivalent of the way you can save blocks in LocoScript under a number and subsequently paste them in by pressing PASTE and the number, you can simulate this with Protext's `merge` command. Though really the counterpart of Loco's insert text, it's fast enough to be thought of as a block function. Save your blocks as normal files and paste them in other documents at the cursor by the command `merge` and the filename.

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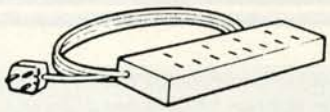

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Cost Cutters

Alec Rae asks two low-price business programs to account for themselves

Just as computers keep getting smaller and smaller, programs also seem to be getting cheaper and cheaper. Manufacturers are now offering a complete stock control system for £10 and a cash analysis program for £12.95. But can you expect a program that costs hardly more than the price of a disc to be genuinely useful?

SPRASH
£10.00 ● Lentronic Software ● 48 Elmete Mount, Leeds LS8 2NU

No! SPRASH has got nothing to do with the noise of a PCW being dropped into water in Japan. SPRASH stands for Sales, Purchases, Returns and Stock in Hand (in One Ledger) which pretty well sums up what it does.

The first thing to say is don't buy SPRASH if you are in a hurry. It is written in the old faithful Jetsam BASIC which is really quite a fast, efficient method of file handling. What seems to slow things down is an almost pedantic error trapping process.

For instance it is quite a complicated program which means that not everything can be loaded into the working space of the PCW at the same time. So when you need to use a new section it takes a moment or two to load in from memory.

Nothing unusual in this. But *after* having to wait (rather than before) you find a message saying "Is this the section that you want. Press Y". When you choose to go back to the main menu a message comes up saying "To return to menu press space bar." These are not major problems but at first you spend half your life waiting for it to do something only to discover that it is waiting for you to press Y or the space bar. Time and again you find yourself answering a question that isn't strictly necessary.

Strangely enough it can also slow things down by being too helpful. You can easily amend any entry – a laudable facility. And it does it by the proper accounting method of entering a adjustment rather than just correcting the figure, which should please the purists.

But whereas with many other programs, when you want to make an alteration, you are shown the entry in question on the screen and can use the cursor keys to edit it, SPRASH offers you a menu with 13 choices offering you every conceivable choice. A Date? A Unit of Quantity? A Sales or Purchase type? It could take a minute to read though the list and another one to decide which option you want. If you want to change two parts of the entry you have to go through this process twice. When you have actually found the entry you want to make you have to enter your correction without having the original entry shown on screen for reference.

Again when you are entering sales it forces you to go on and enter purchases in the same way. If you wanted to enter your sales every day and only bought once a month or even once a week you could find yourself getting tired.

Stock introduction

On the other hand many small businesses with low stock levels blunder on with a manual stock system or without a stock system at all rather than spend the money on a sophisticated program. SPRASH would be an improvement over a manual system and at £10 is hardly going to break the bank.

It is basic and therefore quite simple to learn. Setting stock levels, and entering sales or purchases is simple if

Inconsistent files

Because of the way Jetsam works in the PCW's BASIC system, if you leave a program by panicking (eg. turning off the PCW) rather than in an orderly way, the two files it uses to store your data in can get out of step. In this case Jetsam (hence SPRASH also) cannot get at the data held in the files – not a problem if you are a programmer but a worry for the beginner.

Cash Book
£12.95 ● Double-Jay Software ● 0209 217552

A cash analysis program can be forgive many things if it's easy to use. As the price may suggest, Cash Book doesn't have many pretensions but what it does it carries out in a pleasant, easy manner. And what it does it keep track of your money. One reason why a number of PCW owners buy their machine is to keep track of their personal finances, and as such Cash Book looks like a reasonable investment. If you bought the machine to help you save money it seems illogical to cough up another £100 for a sophisticated accounts package you don't really need.

It also has some good facilities for handling standing orders that would seem ideal for keeping track of a personal account.

Cash Book could also perhaps stretch to club accounts or even a small, simple operation business. It wouldn't be a good idea for someone who was running a serious business. For instance it totally ignores little details like VAT.

However this simplicity does make it quite easy to grasp. You shouldn't have to spend hours poring over the manual, which is lucky as it is rather badly reproduced and not the easiest thing to read.

To make up for this the company have included a sample file, and playing about with this is quite the easiest way to get to grips with the program. It has a password facility to keep it away from prying eyes but you are not forced to use this.

It does seem designed with ease of use in mind although in consequence this means that it is lacking in sophistication. It can only hold 300 items on disc but it gets round this by 'dumping' (deleting) the first 50 entries when it gets full. You are given the option of printing these out before they disappear so they are not totally lost, but again it would hardly suit a serious business application.

Post it again,Sam!

Probably the major feature of the Double-Jay Cash Book will be the standing order handling – repeat postings. Nothing can be more upsetting to your financial peace of mind than forgetting a standing order (especially if you have already gone out and spent it again!) How much better if you just choose the 'repeat posting' option, put in the frequency (you have the choice of weekly, fortnightly, monthly, quarterly, half yearly or yearly) and the number of payments you have to pay.

So if you have just taken out a mortgage over 25 years just jot in the fact that you have 300 monthly payments to make; if you and your PCW are still going in 2012 it will debit the account every month till them.

Another neat feature is that the standing orders are not worked out until you need them. Each time you start the program it asks you the date. So when you load the program it works out the entries up to that date so as not to fill the file up with spurious entries into the 21st century.

slow and returns are catered for simply by putting a minus sign before the number of items. You have to give a reference code to each item so make them easy to remember or print out a list to keep by you.

You set a re-order level for each item and if when you enter sales the stock level falls below that, the program warns you immediately and you can print out a statement to the effect that this product needs to be re-ordered.

SPRASH can take a total of 1450 entries on one disc and the number of entries still available is displayed when you start the program. When this is full the method involved in setting up a new data disc is pretty basic involving using PIP and erasing data files, which could worry any CP/M-phobics.

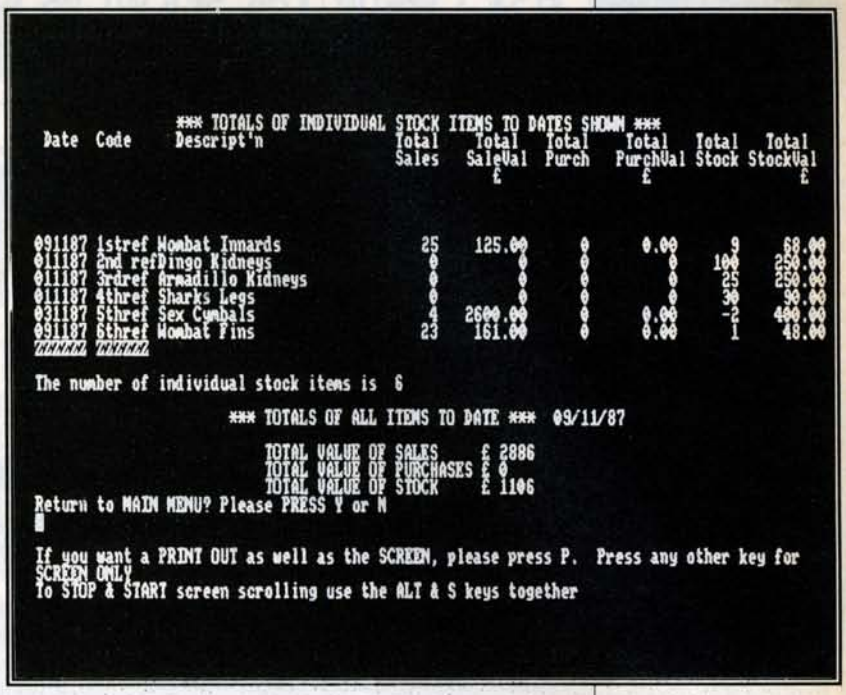
It does give a full choice of lists which can be displayed on screen or printed out and of course keeps tracks of all sorts of totals that would prove invaluable for impressing your bank manager.

The documentation is the usual photocopied leaflet that most low-cost products have – well there isn't much money available from £10 to pay for a glossy manual, and as long as the information is there the physical production style shouldn't matter.

The writer has made an attempt to keep clear of programming jargon in writing although there are still one or two words that could do with explaining. For instance there might conceivably be some ignorant users who don't know that TPA stands for Transient Program Area and means that 61k of the computer that is available for running a program.

Another matter of concern is the ease with which you seem to be able to jump out of the program, merely by pressing the wrong key – for instance the [STOP] key. Not only does mean that you could lose any information you were working on (although you can restart after a mistaken [STOP] by typing CONT) but there is the risk of a problem called 'inconsistent files' which might lose you some data.

Overall though, SPRASH is a fair package for the money and if nothing else will allow you to work out what facilities are most important to you if you buy a costlier system later on.



PLUSES

- Inexpensive way of trying whether a computerised stock control system would suit your business
- Simple control of stocks, purchases and stock levels and reordering

MINUSES

- Too many time-wasting prompts
- Lack of sophistication especially in setting up new data discs
- Not very robust

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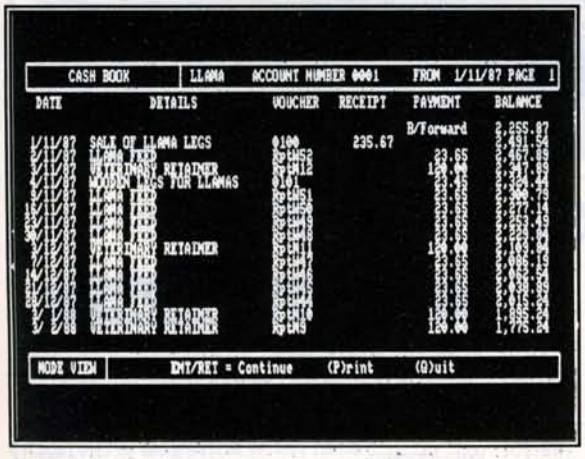

More than one

You can keep track of a number of different accounts on the same disc (they each take up about 20k) by simply opening the file and entering the opening balance. You then enter the items either as a 'Receipt' or a 'Payment' with up to 24 characters of details and up to seven characters for the voucher number entry. These can be entered in any date order and the program sorts them chronologically.

Finding the entries again is also not much of a problem; it uses a Find facility that will look for any detail of the entry apart from the date although at first it might seem a little confusing. You can amend any entry you want, a facility lacking in some 'serious' accounts packages. Admittedly the program is not over robust. In our testing we managed to get it to crash once or twice and you do stand a chance of losing the details in memory but again as long as you were not depending on the program to handle a very serious set of accounts this probably would not be a tragic problem.

It is written in ZBASIC which is fast arithmetically although the makers are looking at ways of speeding up the screen update. This could be considered slow but it would seem churlish to complain too loudly about it in a £12.95 program.

EXIT

PLUSES

- It is cheap and easy to use.
- Well suited to personal finances.
- Good repeat posting (standing order handling) function

MINUSES

- Lacking the features and robustness for a really serious application.
- The method of making room on the file by dumping the first 50 entries might not suit everyone.

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X MARKS THE SPOT

Trevor Haydon sees if a PCW can net him the jackpot on the pools

POOLSWINNER

£15.00 (£16.50 inc. Fixgen) ● Selec Software ● 061-428 7425

A few years ago (well, when I was a boy) there were always people on the wireless advertising there infallible system for winning a fortune on the football pools. If the subsequent exposures in the Sunday press where anything to go by, they invariably lived in terraced houses in Finsbury Park drove second hand Morris Minors. Perhaps it only worked for their clients.

The truth is – unfortunately – the football results are always arbitrary, and so unpredictable. If actual form had anything to do with the outcome to many people would be winning – with a consistent drop in the value of the much publicised jackpots. Big money arises only out of totally unexpected results. You might as well simply pick numbers from a hat.

But for those who insist on believing otherwise (or might not own a hat) things have taken an interesting step forward. You can now fail to win the pools completely scientifically – even employing your Amstrad to help in the task. A program produced by Selec Software called *Poolswinner* (get it?) is designed with precisely that in mind.

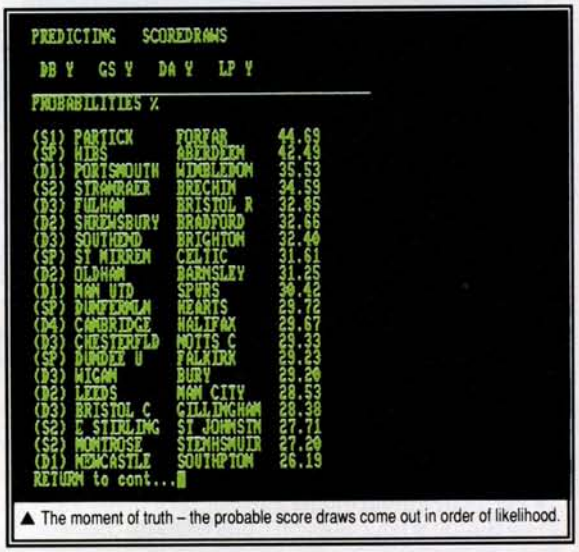
Let it be said at the beginning that no claims are made for the success of this program (a wise move), and on that basis alone it has to be presumed that the writer continues to make more from the royalties than any winnings. But what is promised is that using this approach will produce a 'statistically better chance than average' (up to 30% as opposed to a predictable 17%) and a great deal more 'near misses'. I can't vouch for that, but with all the obvious thought gone into the making I'm inclined to give it a temporary benefit of the doubt. Whether such statistics are ever likely to tip in your favour on one specific Saturday – as they must – is another matter, of course.

20,000 leagues

The heart of the system is the very impressive database: 20,000 individual results from over ten years worth of league games. From such, various results patterns most likely to indicate a subsequent draw have been isolated on the basis that if the pattern recurs you stand a better than average chance of landing the goods (hence the statistical bias in your favour). This is constantly upgraded with each week's entered results.

It's necessary, of course, to enter weekly the past results of each team. This is all about as exciting – and no quicker – than watching paint dry; until you discover they produce an optional extra program *Fixgen* (extra to the tune of £1.50), which has all the league fixture for the entire season nicely worked out, ready and waiting. Typing in the appropriate date brings up the relevant teams. The entire program is menu-driven, with useful on-screen prompts where necessary. You still have to type in the figures, of course, but using this method watching the paint definitely gets relegated to second place. Selec update this side of things – as well as the overall database – each season, and you can change up to the latest version for very a reasonable fee.

Once the program has these details under its belt it starts to compare the current probabilities against the past, stored patterns of results in the database. Having computed statistically the likelihood (or not) of the two teams producing a draw, it will then list the best matches in descending order for you to fill in on the treble chance coupon. If your fancy turns towards the prediction of homes or aways it will do that too.



▲ The moment of truth – the probable score draws come out in order of likelihood.

Results service

All in all, if you wanted to defy reason and write a program for predicting football results *Poolswinner* is probably just about the best outcome you might reasonably manage. It represents a genuine 'state of the art' approach to unfounded optimism.

The only thing it can't do, it seems, is to print postal orders and lick the stamp. But then even the best of programs leave some things to the user's own initiative. Like winning, perhaps?

EXIT

PLUSES

- As good a shot as you can get at systematising pools prediction
- Has a database of 20,000 past matches
- Takes into account each week's new results
- Extra 'Fixgen' program makes entering results easy

MINUSES

- Doesn't guarantee you a jackpot!

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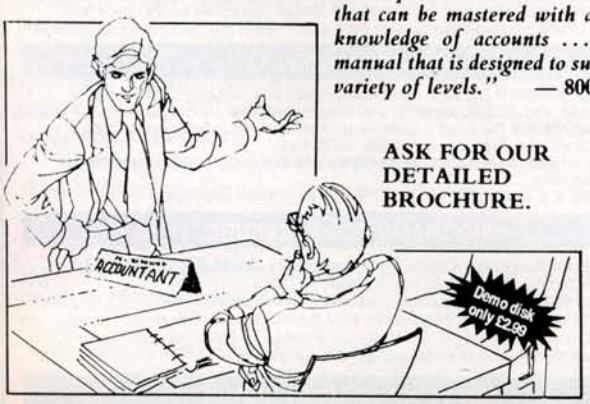

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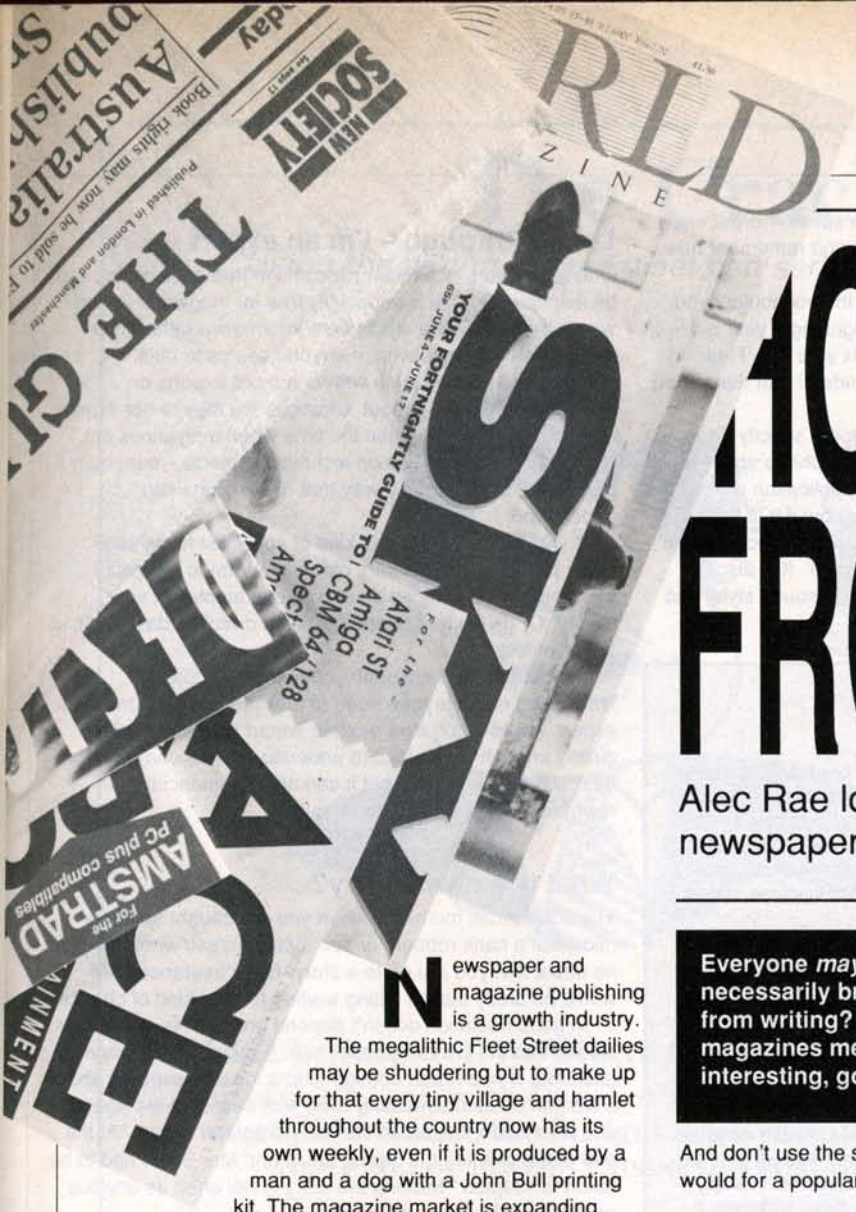

HOLD THE FRONT PAGE

Alec Rae looks at the hectic, pressurised world of newspaper and magazine writing.

Everyone *may* have a novel in them but even a PCW will not necessarily bring it out. Is there not an easier way to make money from writing? The sheer volume of words printed in newspapers and magazines means that there is a constant demand from editors for interesting, good quality articles, which you can exploit.

Newspaper and magazine publishing is a growth industry. The megalithic Fleet Street dailies may be shuddering but to make up for that every tiny village and hamlet throughout the country now has its own weekly, even if it is produced by a man and a dog with a John Bull printing kit. The magazine market is expanding even faster. Have you ever counted how many magazines there are for the Amstrad PCW nowadays?

This means that everyone who wants to enter the hurly burly of freelance writing should be able to find themselves a niche somewhere. Probably the biggest problem is finding which niche.

In our recent article on fiction writing, budding novelists were told to read what is popular to see what the market wants. This is ten times more important in freelance writing. The good news journalist is a person totally obsessed with news – watching every TV news broadcast, listening to the Radio 4 news every hour and reading every newspaper they can lay their hands on. The good technical journalist knows what the current topics of interest are and which magazines have printed what article recently.

The first thing you will notice is that each section of the media has different priorities and each treats the same story in totally different ways. The best Stock Exchange insider-dealing scandal won't find its way on to the front page of the Sun or the Star and a sex exposé needs to involve a major politician or captain of industry before it gets a full column in the Times or Telegraph.

The same holds true all the way through. *The Bogtown Bugle* will drop a brilliantly written article on nuclear disarmament in favour of an exposé of nobbling tactics at the local flower show. Before you even think of selling a story be certain that you are looking at the right market, and once you've chosen your 'angle' on a story then exploit it to the full.

It is also important that you should try to write to the style of the publication you are approaching. This can vary considerably. For example 8000 Plus takes a quite simplified, light hearted approach to its technical subject that would be regarded as sacrilege in 'serious' technical mags. And don't use the same style for an arts magazine as you would for a popular daily.

"I am fluent in journalese...."

In newspapers there is a basic style you should aim at no matter what. There is a lot of self-satisfied sneering about 'journalese' usually from people who were frightened by their teachers at Primary School. To these people writing isn't writing unless it has a couple of "apertaining to"s and a "23rd inst." in it.

Yes, newspapers do the unforgivable – they start sentences with 'And' or 'But' and end them with prepositions. You just have to accept that – you won't change them.

Free advertising

If there has been a population explosion in publications this fades into insignificance compared with the increase in the number of press releases arriving on editor's desks.

Everyone knows that a press release is a method of you getting the newspaper to print how wonderful your company is. The trick is to find a way so that it doesn't appear that that is happening.

The press release must contain some substance. There are still people sending out press releases filled with nothing but glowing praise of their company and wondering why it is not printed.

On the other hand keep the content simple enough that even a sub-editor can understand it. Nothing will get dumped quicker than something that makes the sub feel intellectually inferior. Lists of figures and/or jargon are dangerous.

Don't say things like "This is the best product" or "We have the fastest delivery" unless it can be proved by an independent source. Any good publication will tone it down and not thank you for the extra nuisance.

If possible always add a photograph and try to make it as interesting as possible. Editors are always looking for good pictures to brighten a page up and will carry a second rate story if it has a good picture.

Your best chance of success is if you actually turn your P.R. into a real story. To say your company has done so well that you have had to move to bigger premises might get a couple of inches space inside. Say that the planning authority have blocked your expansion plans and such a highly successful company is being handicapped and you can get the front page lead.

Newspapers are written the way people speak. Forget rules of grammar and letter writing technique and remember how you talk.

For news writing in particular try for the vocabulary you would use to explain something to a bright eight year old – with some newspapers drop that to a six year old. That means no polysyllabics (note to Sun readers: that means big words).

Keep the sentences short. Some papers specify no more than 10 words each, and keep the paragraphs to about two sentences. It is true that virtually every publication will 'sub' your work (edit it to suit the 'house style') but if it is too far from what is acceptable you'll find your masterpiece 'spiked', or as non-newspaper people call it 'dumped'. It is also important not to use jargon like 'spiked' or 'house style' and if you do always explain.

Sub-editor
In newspapers and magazines virtually everyone is an editor of one sort or another. (Journalists are famous for asking for a pay rise and settling for a 'promotion' to being called editor of something). Sub-editors however are a different breed. They are the people who do the hard slog of converting misspelt, ungrammatic, overlength *copy* (what is written) into a fit state to appear in print.

I submit

Okay, so you know how to write journalist's English, you know how to spot a story or you know how to write a technical article. What do you do now? Editors really *do* like to receive ideas for articles or stories from anyone – you would be surprised how much of any publication is written by freelancers, so don't hang back.

If you are trying to get a piece onto the news pages of a paper then speed is obviously of the essence. Don't agonise over the phrasing for a week, or either you will be beaten to the story or it will die anyway.

For feature writing things are a little more relaxed. Always try to contact the editor before writing any major feature or you could be wasting your time. Ring up – letters saying 'would you be interested in an article on something sometime' tend not to get answered.

Minor features can be submitted on spec. As usual, submit a double spaced typescript with generous margins. Any illustrations help – sometimes good illustrations can sell a poorly written article. Always enclose a reply paid envelope if you want any response at all, even a rejection. Most editors will simply not reply if they have to find an envelope, copy out the address etc.

It is bad practice to submit to more than one publication at once. If two rival publications both run your article at the same time they will both be very annoyed, probably you won't get paid, and you will be effectively blacklisted by them both.

Finally, don't be impatient and ring up the editor every day for an acceptance or your payment. The contents of a monthly magazine is probably written a month before it goes on sale, and payment for publication is usually made a month after that. Being optimistic, if you send an article to a monthly it won't appear for two months and you won't get paid for three.

In the beginning...

The most important part of your article will be the introduction. Editors take the first paragraph very seriously. If the reader is put off in the slightest by the intro they need to be keen to plough on to read the second paragraph. Generally speaking it is assumed readers are never that keen.

News story introductions have certain conventions. They traditionally always answer every question you can think of – Who? What? Where?, When?, How? and even Why? If these questions are not answered in the first sentence they will need to be in the first paragraph.

Don't try the old 'sting in the tail routine'. Newspapers have an unpleasant habit of cutting articles starting at the bottom and working upwards so if the whole point of your story is in the last sentence you could have a problem. Be prepared for your sparkling prose to be changed; after all, the sub-editor has to justify his existence somehow.

If you are writing a commissioned article always make it as near to the correct length as you can. Don't think that an editor will be delighted if you stick in an extra 1000 words that you are not charging for. It could take longer to cut the words out to fit it to the space on the page than to write the article from scratch.

But generally make it as simple as possible. Let someone who doesn't know what you are writing about read it before you commit it to the Royal Mail's care and see if they understand it. If not, rewrite it until they do.

House style
All the little details that sub-editors like to keep consistent. Whether you write 'PCW' or 'P.C.W.' for instance, whether you use '-ise' or '-ize' endings. If you write regularly for a really organised publication they might send you a style sheet so you can write in the correct house style and save the subs a lot of trouble.

Let me through – I'm an expert

One quick route to a healthy income in freelance writing is to be a specialist. This is especially true for magazine writing where the bulk of the articles are informative rather than news items. Despite what everyone seems to think newspaper and magazine writers are not experts on everything they write about. Chances are they're not experts on anything. There is often the time when magazines are looking for expert advice on technical subjects – especially if that expert can write in a way that non-experts can understand.

If you feel you have this kind of specialist knowledge again pick your market very carefully. Write to the editor explaining what you can do and give examples of your writing. Or give him a phone (not on a deadline day) and find out his needs.

Remember that although you find your subject fascinating not everyone does (if they did you wouldn't be an expert, would you?) You need to impart your knowledge clearly enough for an idiot to understand. This can be quite frustrating for an expert but it can also be financially rewarding which makes up for a lot.

What is a news story?

There are those moments when you are caught up in the middle of a bank robbery or see a plane crash when there is no doubt that you are on to a story. But a freelance's life would be pretty barren sitting waiting for that kind of chance.

A good freelance doesn't depend on luck. He recognises stories that the layman doesn't see. A famous newspaper anecdote is of a report coming in to a local newspaper about a women's institute meeting filled with details of the agenda and who made the tea. In the last paragraph it said, "At the end of the evening the ceiling fell in and Mrs Smith had to be taken to hospital." Missing the story is not often as obvious as this but it happens all the time.

The best money comes from big national daily papers but unfortunately you usually need a good story. It is more sensible to try your local paper – a publication that is usually read with a fervour and attention to detail that would frighten the daily newspaper boys. Local newspapers are more interested in the fact that the event took place within 10 square miles of the office and mentions at least six local people than anything else.

Magazines aren't usually so interested in news. You'll need to spot a gap in the kind of articles they have recently run and aim to fill that gap.

● *Before joining 8000 Plus , Alec Rae was Editor of the Scottish edition of Construction News, the paper for the building industry.*

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LOCOSCRIPT 2

The guide at your side

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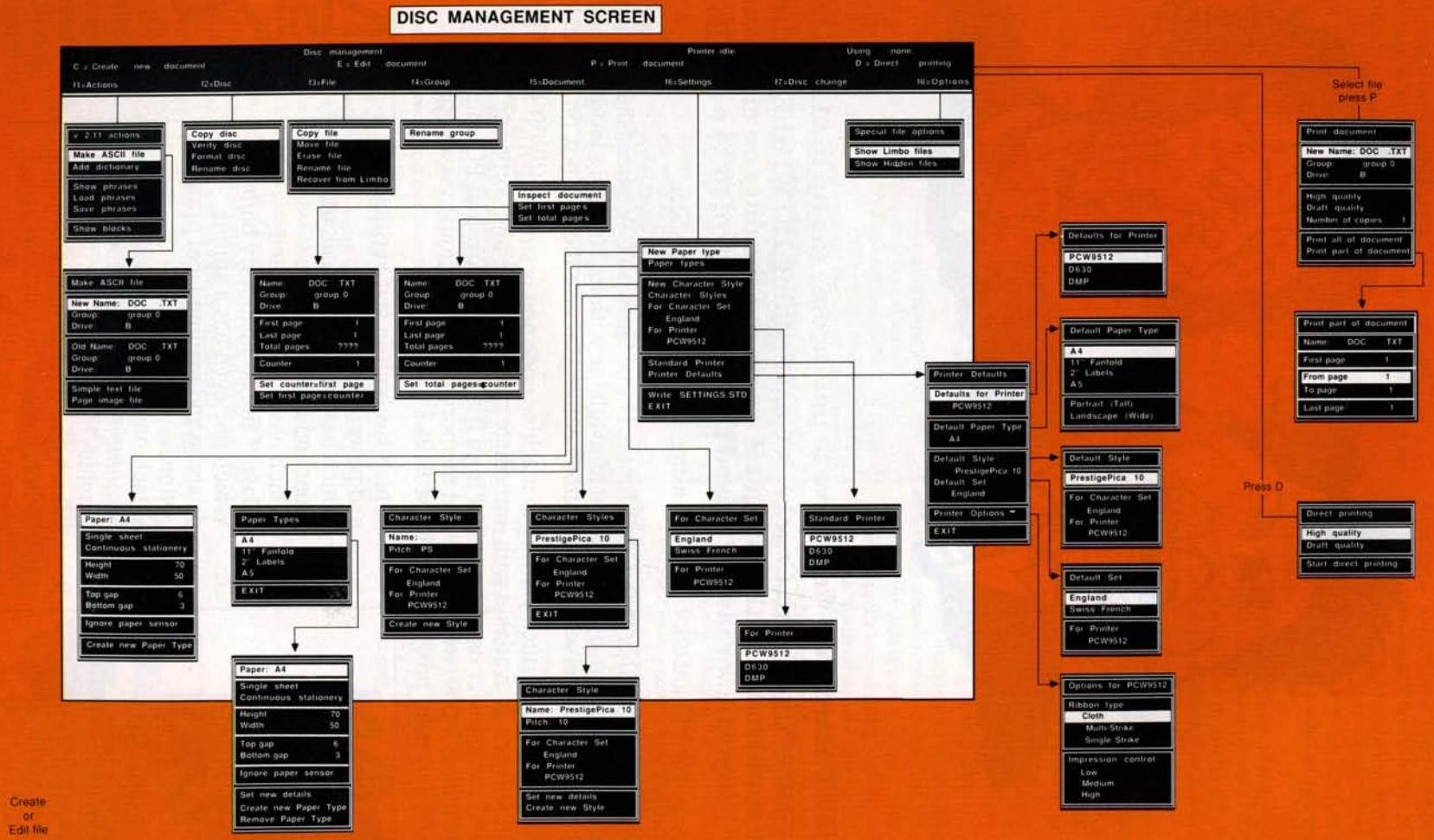
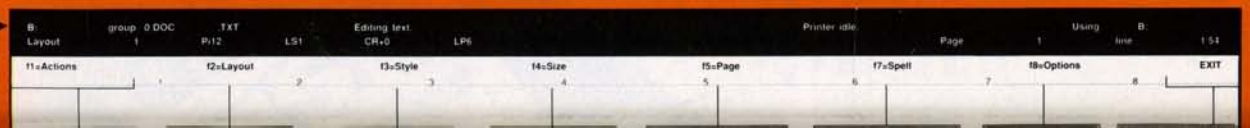


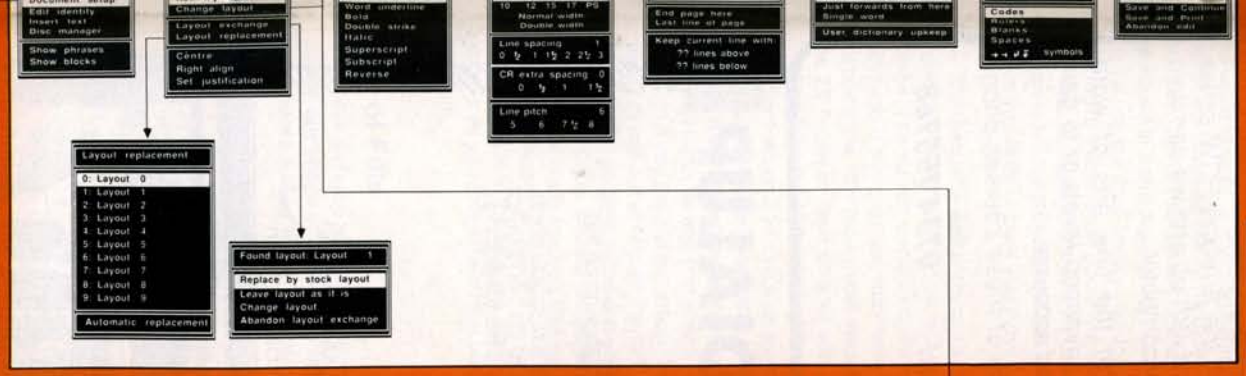
Create
or
Edit file

EDITING TEXT SCREEN



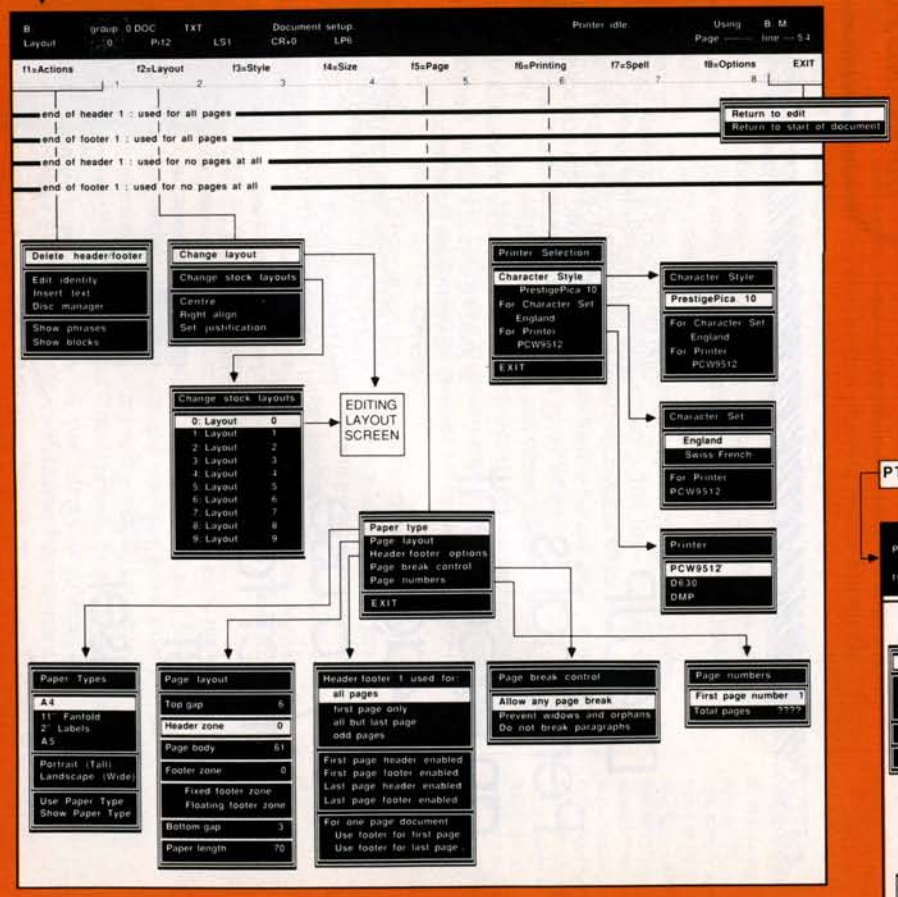
SET MENU

CLEAR MENU

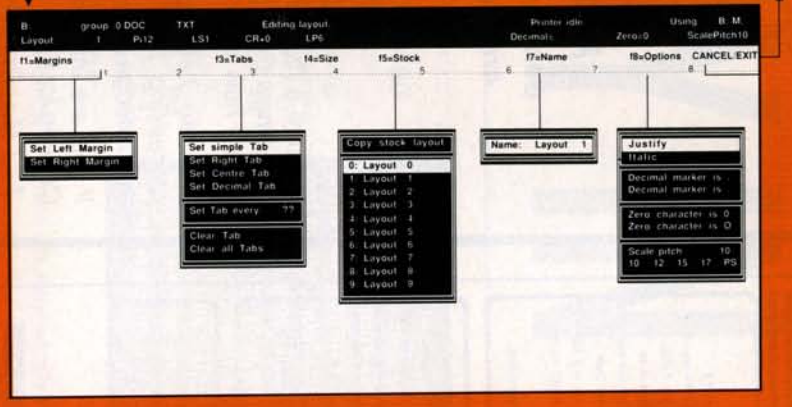


The Set and Clear menus are shortcuts for the functions available on the various editing menus. Press [+] or [-] followed by the capitalised letters of the menu choice and the relevant code is inserted in the document. The choices with question marks by them need extra information and you will be prompted. The Set or Clear menus only appear if you don't press any keys for a few seconds after [+] or [-]. See the PCW9512 manual p135 for details (LocoScript 2 manual p101).

DOCUMENT SETUP SCREEN

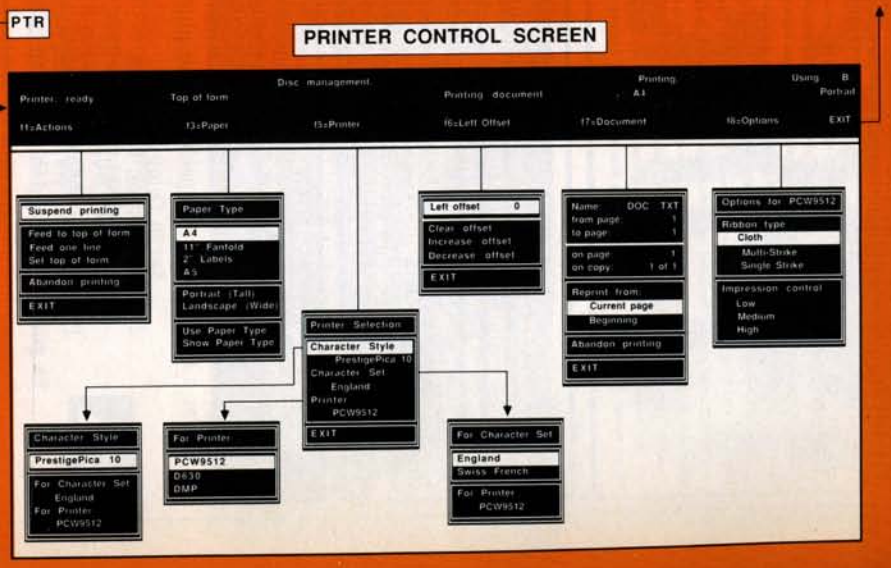


EDITING LAYOUT SCREEN



PRINTER CONTROL SCREEN

PTR



This chart was compiled from the menus of LocoScript version 2.11 as supplied with the PCW9512. Menus may differ depending what printer(s) or paper types you have set up.

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STUDY IN GREEN

Should you feel discontented with your old 8256 or 8512 compared with a flashy new 9512 just remember that there are things they can do that this Johnny-Come-Lately can't even think about – for example, print out graphics on its fancy new daisy wheel printer. The PCW may not be the most suitable machine for producing graphics but there is often the time when you feel you need even a basic piece of artwork to brighten up your words.

As if to underline that the old 8000 series machines still have life in them yet, this month has seen the launch of two new graphics programs that should help you combine your artistic talents with the latest in computer technology (well nearly the latest).

Master Paint

£19.95 ● Database Software ● 061-480 0171

When you load Master Paint you feel as if you are leaving the world of word-processing behind you. You are entering a WIMP environment where there are no words – only windows, icons, menus and pointers – and you only use the keyboard in a dire emergency.

To use the draw facility you don't type DRAW or even D – you move a little arrow about the screen until it points to the pen icon (a little symbol with a picture of a pen), and click a button to tell the program the pen is the thing you want. When you want to paint you move to the little paint brush icon.

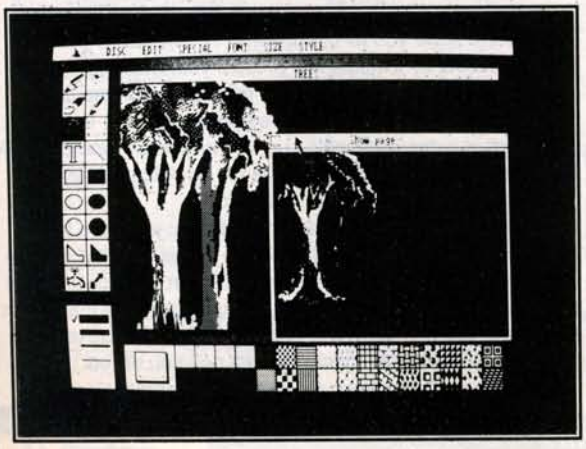
The manual is well produced and quite clear although the essence of a WIMP program is that you shouldn't need to read it. The screen display icons should be self-explanatory although in this case you may have to check what, for instance, the little tap symbol means (it is, logically enough, the 'fill' facility to flood an area with a paint texture.)

Along the top of the screen there are words like 'Disc' and 'Font' which if you click on them (move the cursor there and press the button) you get a menu of options on that subject. It is worthwhile just running through these just to see what it can do and find where everything is.

Even if you are not the artistic free-hand type you can get plenty of use out of Master Paint. The Icon chart has circles, ellipses and squares (filled and unfilled) which allow you to knock up a circle, square etc without too much trouble. For instance the circle involves clicking the mouse at the place where you want the centre and moving the mouse about until the circle is the size you want. The circle grows and shrinks as you move the cursor until it looks right and you freeze it.

Full of Fills

You have a choice of 32 'fill' patterns. This means that you can fill any shape on the screen with any of these patterns. If you choose a filled shape from the icon menu the shape on screen will automatically fill with the relevant pattern. These are reasonably varied although whether anyone would want a shape filled with tiny cherries is debatable.



One thing to watch is that when you choose the option Clear Screen it doesn't actually empty the screen but it fills it with whatever the current fill is. Turn it to the white box unless you want to draw your next picture against the background of a brick-wall or whatever.

The fill pattern is also used when you use the paint brush. This turns the cursor into one of eight different paint brushes – either square or round and of varying thicknesses. The white fill pattern allows you to paint in white against a black background.

There is also a spray paint option (chosen by the the spray can icon suitably enough). This uses a small 'spray' pattern rather than a real random spray effect which works quite well if 'sprayed' quite heavily but can look incongruous if you are wanting a light 'spray' effect.

All those people who can't draw straight lines are catered for. Lines (of varying thicknesses) can be drawn between chosen points and irregularly shaped polygons (shapes with lots of edges) can be mapped out by clicking on the right places for the corners.

Of course even with all this technology you can still make mistakes and Master Paint does a fair bit to help you put things right. The simplest thing to do is to choose the 'Undo' option which wipes off what you have done since the last time you changed options. This can obviously be quite a lot of work so you might prefer to use the little eraser icon which allows you to 'rub out' parts of the screen.

Should you want to just touch up small parts of the screen the zoom facility is best. This blows up a section of the screen so that you can see individual pixels clearly. Then you can do minute changes to the picture and move the window to another spot. This is actually blown up so much that you cannot easily tell what effect your changes are having but the advantage with Master Paint is that it shows you the blown up part of the screen as an inset and you can still see what is happening in the proper size as it happens.

There is a slight bug where the zoom frame seems occasionally to get imprinted on your picture but this is a time consuming nuisance rather than a major fault.

You can copy and shift parts of the picture around the

Mouse power

If you are using Master Paint seriously you will want a mouse (one of those ingenious little plastic boxes that you roll round your desk, controlling the movement of the cursor on the screen). Once you have got used to manipulating the mouse you can produce quite sophisticated free-hand drawings on Master Scan. Anyone who already has a mouse is laughing though. The program will run with AMX, Kempston or Electric Studio mice.

PLUSES
- WIMP environment makes it easy to use.
- Good range of effects.
- Zoom allows you to see the effect of changes as you work.
- Good undo and eraser facilities.

MINUSES
- Text Fonts are pretty boring for a graphics package
- Can't move large blocks with the copy function

RANGE OF FEATURES ■■■■■ PERFORMANCE ■■■■■
EASE OF USE ■■■■■ DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

screen (although there seems a limit on how much) and you can do a number of fancy tricks like getting a mirror image (both vertically and horizontally)

Of course you have not left words totally behind as you have the ability to put text anywhere you want on the picture. There is a choice of four fonts and four different sizes although it has to be admitted that there is nothing very exciting in the fonts. They are all sensible looking 'business' type fonts, something of a surprise in a graphics package.

SKETCHPAD

£12.95 ● Composit Software ● 0952 586979

While the first program grandly calls itself MasterPaint, Composit Software modestly christened their product Sketchpad. And this is reflected in the range of features and the presentation of the products. While all the big boys are struggling for the flashy end of the market Composit seem to be trying to squeeze Sketch Pad into a niche that no-one else has tackled.

Sketchpad doesn't come with the option of a mouse or a light pen. Anyone who has tried to run any art package using cursor keys will know the limitations involved in this but Composit are looking for the people who aren't really interested in a full blown art-package but would still think it worthwhile investing £12.95 and a bit of time to occasionally produce graphics.

And it is on this level that Sketchpad works best. You have the ability to produce your own symbols using a 16x16 pixel grid (there are some on the disc but apart from the musical notes they are not of much practical value). Then you can quite easily place these anywhere on the screen.

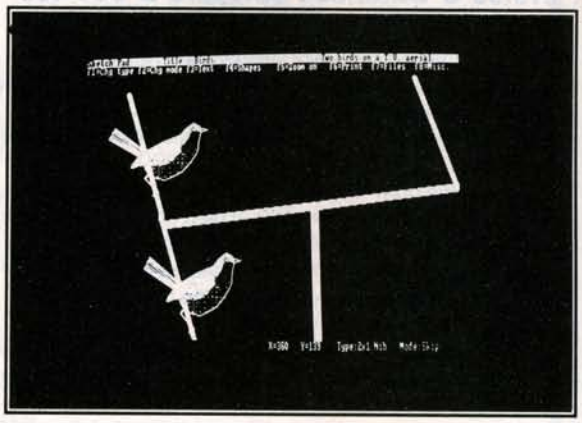
Anyone wanting to produce plans for circuits, for example, could just knock out the symbols they want and reproduce them quickly and effectively. You also have the chance of redesigning any or all of a complete character set on an 8x8 grid to use as smaller symbols. You can then add text directly from the keyboard in varying sizes and in italics.

One good feature is 'slide show' which shows four pictures you have designed every 15 seconds in a continuous display.

Straight line limit

However it would be wrong to say that this was a full blown graphics package. It has the ability to draw straight lines at any angle but if you wanted to attempt anything like freehand drawing your only choice would be to do it a pixel at a time. Even with the reasonably fast cursor speed this would be immensely complicated and time consuming.

The program has a good zoom feature which, like Master Paint, allows you to see the effect of the changes as they happen but to use this for a large area of the screen would be earth-shatteringly slow.



You can achieve some interesting effects with Sketchpad. In every corner you find unusual details that seem almost inexplicable but often interesting. For instance you can use any of the symbols that you have created as a paint brush. There is no reason given why you should have this option but it certainly is fun seeing what it can do.

As well as drawing and erasing there is an XOR mode which just reverses any pixel the cursor covers (if it was black it becomes light green and vice versa) and there are two sizes of spray paint head and five different 'nib' sizes for drawing (up to 8x4 pixels).

There is a rather crude facility for drawing circles and if you specify a filled circle the result is quite amazing – if you can think of a practical purpose to put it to. There is a 'fill' facility with a choice of eight fill types and a range of types of line.

The humble origins can be seen in the design of the program. There are none of the fancy Icons of Master Paint. Virtually everything is run using the function keys (the f-keys at the side of the keyboard). A 'status line' showing what is available can be constantly displayed across the top of the screen if needed although this does take up some of the screen space. The keys 'pull-down' other LocoScript–style menus to show you all the options. You can also get most basic effects by a single key press if your memory is good.

You have the coordinates of the cursor marked at all times at the bottom of the screen and if you ever lose the tiny dot of a one pixel wide cursor, just press ? and an arrow points to it on the screen. This is not as ridiculous as it sounds when the screen is cluttered.

If you are about to do anything drastic you have the choice of 'taking a snap-shot' which keeps a record of it. So when you make a total mess of it you can go back and start again. Be careful though since the program itself makes use of this snap-shot (like saving the picture when you use 'zoom') and it will overwrite the last one you saved.

The printing facilities are pleasingly flexible, giving a choice of three qualities of output, normal or sideways. EXIT

Half-time score

Sketchpad started life almost by accident. The programmers were in the throes of producing a program to print out musical scores (so they say). To do this they needed a reasonable ability to produce graphics. Although the music program is still not complete they decided to market the graphics program in its own right.

PLUSES
- An inexpensive package designed not to need a mouse.
- Good symbol designing facilities

MINUSES
- Virtually impossible to draw freehand
- Lack of mouse option makes it cumbersome

RANGE OF FEATURES ■■■■■ PERFORMANCE ■■■■■
EASE OF USE ■■■■■ DOCUMENTATION ■■■■■

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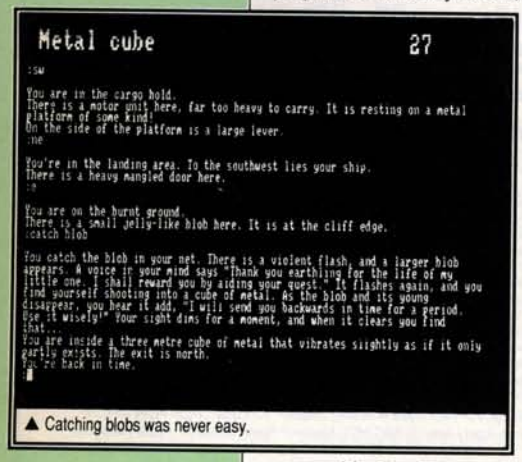
SPILLS AN

Are you sitting comfortably? Watch ou
corridors of the monti

COUNTDOWN TO DOOM
£17.50 ● Topologika ● 0733 244682

One moment you're cruising nicely in your spaceship, surveying the cosmic scene man, the next you've crash landed on a planet that goes by the unlikely name of Doomawangera, which suggests that the planet is not inhabited by aliens at all but Australian colonists.

Whoever, they are, the fact remains that they're not too friendly which begs the question that if they are Australians what are they doing working for British Rail? Your unenviable task is this: either repair your ship or prepare to meet thy doom, on Doom...awangera!



▲ Catching blobs was never easy.

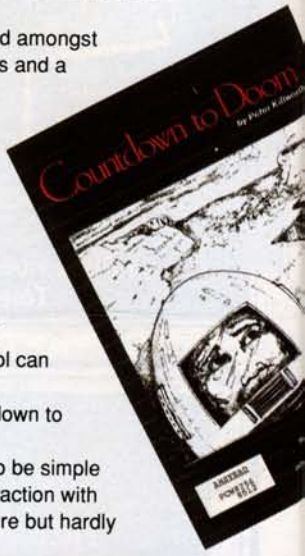
The object of the game then is to find a number of objects essential to the repair of your ship – dilithium crystals, motor unit, navigation unit box, life support system, medikit and a nuclear reactor – and bring back any treasures you might find on the way. You know, precious things like spheres of trillium and other bizarre objects that only exist in programmer's minds.

To give a sense of urgency to the game, you have only four hundred time units in which to return the equipment to the cargo-hold of your battered space-ship. During this time your brain cells will also take something of a battering themselves.

The game's puzzles are testing to say the least, though some relief is supplied by the hint sheets which, in some cases, are nevertheless, a tease in themselves.

The climate of Doom, very much like the English summer, boasts a full range of temperatures. There are also a wide range of terrains – swamp, jungle, desert, mountain range and so on. And you can even travel for brief periods back in time.

To survive these you must find amongst other essentials, a pair of goggles and a helmet. The latter is particular useful when being attacked by swarms of slugs (slugs?) or trying to get through sliding doors that can read your mind.



Like any adventure holiday, there are the usual gamut of activities – riding on sandworms, catching blobs with your fishnet, stamping on metatermites, which certainly beats anything Blackpool can offer.

There is no doubt that Countdown to Doom is an addictive adventure. Unfortunately, commands have to be simple and there is little meaningful interaction with characters. A worthwhile adventure but hardly state of the art.

PLUSES
- Some fierce puzzles... good luck to you!
- Useful hint sheets
- Simple plot

MINUSES
- It can get very lonely

ATMOSPHERE	■■■□□	CHALLENGE	■■■■■
INTERACTION	■■□□□	VALUE VERDICT	■■■□□

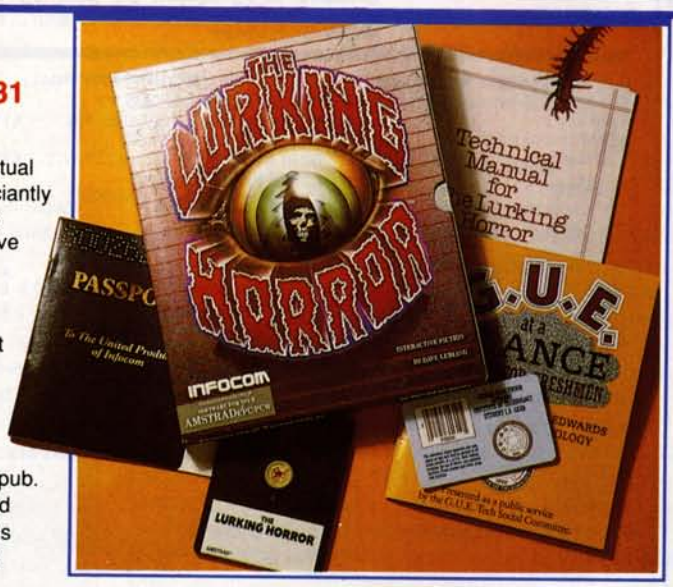
THE LURKING HORROR
£24.95 ● Infocom/Activision ● 01-431 1101/2992

As we all know, students (under the pretext of intellectual advancement) spend most of their time getting insouciantly plastered, playing foolish pranks and doing as little as possible, and mostly at the taxpayer's expense. Believe me, I know; I was that student.

Well, here, courtesy of Infocom, is a scenario that many students will be familiar with. Being the penultimate day of term, you've decided that it's about time you did some work on your assignment. Twenty pages on "Modern Analogues of Xenophon's 'Anabasis'". Simple. But what have the classics to do with computer science? Well you might ask!

To make matters worse, you can't even get to the pub. There's a raging snowstorm outside which has blocked every road within a three thousand mile radius. There's nothing for it. You're going to have to stay the night at college and complete that assignment.

George Edwards Institute of Technology, or GUE, is much like any other college building. For one thing, the lifts are daubed with graffiti. There's a computer lab, a number of science departments (including alchemy of course) and not a lecturer to be seen anywhere. On the other hand, unlike most college buildings the lifts actually work.



So, knowing that there's no escape you decide to settle down to that dirty four lettered word. But perhaps before you do that you should have a quick look round the building. After all, you don't know it that well.

D THRILLS

Tony Flanagan leads on down the chilly
new adventure games

KINGDOM OF HAMIL

£17.50 ● Topologika ● 0733 244682

The plot for this text only adventure must be as old as Moses, literally. There you are, ruminating on monuments of insignificance when it suddenly appears to you in some vague, very mysterious way that you're special.

The upshot of it all is this: you're not a stupid pleb at all but one of royal blood, which somehow makes your stupidity far more acceptable. Who cares if you're a complete imbecile, you're also the rightful heir to the Throne of Hamil.

The fact is some unscrupulous personages had you kidnapped long long ago when you were a mere babe in arms. But now the time has come to reclaim both kingdom and crown... and so you enter the magical Kingdom of Hamil, a land the playguide describes as a land of 'sorcery and romance'.

Personally, I didn't find a lot of romance, though after three nights adventuring, I did find myself looking inordinately long at a rather pretty hobgoblin. Still, a bucket of cold slops soon cured that!

In addition there's a range a range of monsters and mythical beasties to deal with, all of which will no doubt make the hairs on the palm of your hand stand to attention. And there's even an old Vampire who looks as if he's doing an impression of Christopher Lee.

The object of the game is to get past all the obstacles, animate or otherwise, collecting your stolen treasure as you go. There's a range of typical if uninspired puzzles, from passwords to mazes, with a hint sheet for those quiet moments of desperation.

Unfortunately, many of the game's locations appear to be nothing more than passageways or corridors, containing little that is useful or interesting. Similarly, you won't get much out of the characters you meet. Old Dracula is to busy wrapping his fangs round your jugular to indulge in idle chat.

The Kingdom of Hamil lacks the sophistication, humour or interaction of the best adventures. There's a starkness about this game which is ultimately disappointing. Having said that, like Countdown to Doom, Hamil comes with a neat introduction to adventures and adventure playing which will certainly be of use to someone new to this kind of game.

PLUSES
- Helpful introductory guide to adventure playing
- Nice plot, if lacking originality

MINUSES
- Location descriptions too sparse
- Characters undeveloped
- Too many corridors/passageways, not enough description!

ATMOSPHERE	■■■□□	CHALLENGE	■■■□□
INTERACTION	■□□□□	VALUE VERDICT	■■□□□

```
>OUT
You enter the freezing, biting cold of the blizzard.

Roof of Great Dome
You are perched precariously on the roof of the Great Dome. A set of narrow indentations
in the dome provides a dangerous route to the very tip-top of the dome.

>U
You scramble up icy surface of the dome, almost slipping a few times, but finally you
make it to the top.

On the Great Dome
This is the very top of the Great Dome, a favorite place for Tech fraternities to
install cows, Volkswagen Beetles, giant birthday candles, and other bizarre objects. The
top is flat, round, and about five feet in diameter. It's very windy, which has kept the
snow from accumulating here. The only way off is down.

There is a cylindrical hole here.

Bitter, bone-cracking cold assaults you continuously. The temperature and the blizzard
conditions are both horrible.
```

▲ On top of the dome and it's blowing brass monkeys

As you quickly discover, the George Edward's Institute is not what it seems. Somewhere deep in the basement, the sub-basement or perhaps even the sub-sub-basement something nasty is lurking...and it's not the Principal. The aim of the game then is to find out the secret hidden within the college building before it finds you!

Further exploration reveals an altar and (chuckle, chuckle) the 'tomb of the Unknown Tool', an inscription that's best left to the imagination. (Ah! perhaps this is where the Principal hangs out.)

Of course to play the game successfully, you'll have to become conversant with GUE tech lingo, words such as 'frob' which is merely the equivalent of our 'doobrie', or 'doins' or 'wotsit'.

The game comes with the usual Infocom paraphernalia – this time an ID card, a student handbook and a plastic creepie crawlie which you can produce at restaurants and claim you found in your soup.

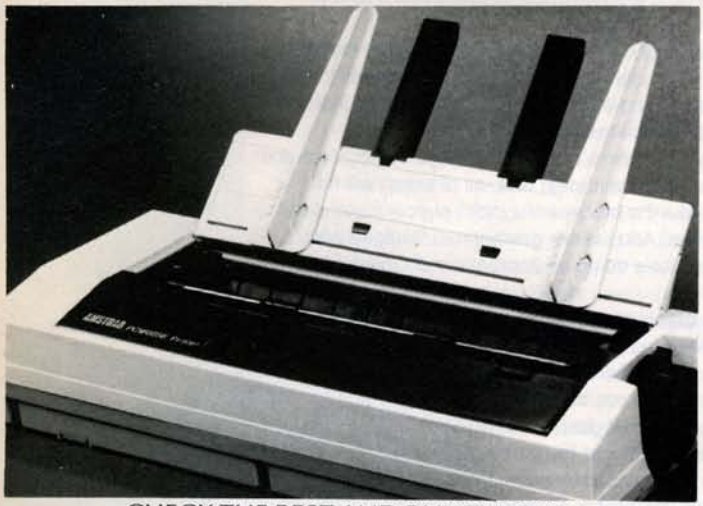
The Lurking Horror, lives up to Infocom's usual high standards. Although it has neither the sophistication of Leather Goddesses of Phobos nor the atmosphere of Moonmist, it is nonetheless a very playable adventure. EXIT

PLUSES
- Well-written text
- Compelling plot

MINUSES
- Puzzles will please the novice but disappoint the veteran
- Humour weaker than other Infocom adventures

ATMOSPHERE	■■■■□	CHALLENGE	■■■□□
INTERACTION	■■■■□	VALUE VERDICT	■■■■□

'MM3'



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CARRY ON PCW

John Driver explains how to take your PCW caravanning with you

Most electronics systems usually run from low voltage d.c. (direct current) supplies for the simple reason that nearly all their component parts (the silicon chips etc.) expect it. In the case of portable radios, tape recorders, calulators etc. This happens to be very convenient since a small battery can be used to provide the d.c. – all batteries are sources of d.c.

However, once you start moving up to bigger pieces of equipment, for example where TV-style screens are involved, the power consumption rises rapidly and in most circumstances it is no longer practicable to use a battery as the main power source. Should you require to use your computer away from mains, say in your caravan or in your yacht, then you have got problems.

Inverting the problem

One of the easiest and most widely used solutions to this problem is to use an inverter. This is device which works in the opposite way to the transformer described above: it takes a d.c. voltage from a battery and puts out 240 volt mains a.c. to a conventional 3-pin socket, into which you can plug your PCW.

As usual there are pitfalls in adopting such an arrangement. For computers, potentially the most serious problem is that whilst our mains at home provides us with a relatively smooth a.c. supply (in engineering terms: a good sine wave), many inverters have a poor output, often quite large 'spikes' are generated and most computers will not like these at all. So you have to take care in choosing a suitable inverter; one advertised as 'sine wave output' will most likely be acceptable, a 'square wave output' one may not be. It is best to get an assurance from the supplier that his inverter will satisfactorily run your PCW; treat with caution any claim that the inverter is 'O.K. on most things', since computers vary in their ability to deal with unwanted spikes.

▲ A car battery and inverter providing light relief during a boring camping holiday.

Power struggle

The next consideration is that of power consumption. Not only must you be sure that the inverter will happily run your equipment when everything is on (if you have a separately powered printer or disc drive they will eat up extra power) but it must also be able to cope with the initial switch-on 'surge'. In the case of the PCW 8256/8512, for the few fractions of a second immediately after switching on the power required amounts to many hundreds of watts, but this settles to comfortably less than 100 watts in normal use.

Of course, which battery you choose to supply the d.c. is a vital consideration in coping with this power surge. A couple of PP3s connected together probably wouldn't be up to much. All car batteries should cope since they are designed to withstand a starter motor's surge.

The cables between the battery and the inverter must be capable of efficiently conducting the electrical current to the inverter and here we meet the problem that the 'low tension' current is greater due to the difference in volts (if you remember back to your O-level physics, for a given amount of power about 20 times more current will be required at 12 volts d.c. than for the 240 volt mains). Also, the inverter will use some current in driving itself –in fact it will sit (fairly) quietly consuming perhaps 10 watts even when the computer is switched off!

Provided you buy a suitable inverter, it is quite practical to run a PCW from a car battery.

Don't interrupt

Inverters can be used to run mains driven equipment where mains is not available. A somewhat more sophisticated system incorporating an inverter can be used to protect the computer operator from mains interruptions or, at the very least, allow time for all data to be transferred to disc and the computer shut down. Such a device is called an uninterruptable power supply – UPS for short, and costs a little more than a simple inverter.

The UPS is normally connected to the mains with its own 13 amp plug. The mains feeds a battery charger which is connected to an internal battery, and in turn this battery is connected to an inverter which once again generates an a.c. mains supply and feeds the computer. The system is arranged such that if there is a power cut the internal batteries take over and protect your valuable data on the PCW, making sure that there are no nasty power spikes as the changeover occurs.

The internal batteries will maintain the 240 volt a.c. output for about 10 minutes, typically. Usually external batteries can also be added to allow perhaps several hours of operation without mains. All in all this represents the ultimate in protection from unreliable mains power supplies but, as with computers, it is only in recent times that advances in technology have allowed such equipment to reduce in price (and size) and thus become more attractive to the home and small office user. EXIT

Who? What? Where?

One company who sell suitable inverters for running PCWs with is JSD Seawave Services (0823 271614). An inverter costs £92 and a full UPS £229. John Driver, the highly impartial author of this article, owns up to being the proprietor of JSD.

Battery facts

Car batteries are rated in 'ampere hours'. A 40 ampere hour battery is supposed to be able to deliver a current of 40 amperes for an hour without needing recharging. (In situ in a car, batteries are constantly being recharged so should never go flat.)

A car battery, fully charged and in good condition, can usually be relied upon to give a respectable voltage output for at least half of its rated capacity when used to power the PCW through an inverter. Therefore a 40 ampere hour battery can be considered as a reliable 20 ampere hour source. At 12 volts, 20 ampere hours gives you 240 watts for an hour. (watts = amps x volts). A PCW consuming – typically – 70 watts (including the internal requirements of the inverter) will thus go for over 3 hours of continuous use; rather more in computing bursts of, say, half an hour.

Don't forget that the inverter itself will take up power even if it isn't driving anything, so don't forget to disconnect it from the battery when you turn the PCW off.

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Dr. Logo has interesting ways of storing data – including a complete built-in database

If you've done any BASIC programming you probably know what variables are. You do? Good, well forget all that because Logo has a totally different approach to storing data. There's not much difference between numbers and letters, there are no arrays, and the most important way of storing data is by using 'lists'.

A list of items in Logo is just what it sounds like – a collection of any number of Logo data items written down one after the other. A list is always enclosed in square brackets, and it can be assigned to a variable in the normal Logo way:

```
make "mass_murderers [Crippen Ripper Manson Kray]
```

Lists are the most important way of storing data in Logo, and therefore the most important things to know about lists are how to get items into and out of lists. To get hold of the first item of a list, use the primitive `first`:

```
pr first :mass_murderers
```

will print out 'Crippen' on the screen. `last`, used in the same way, would print out 'Kray'. You can get to a particular item if you know its position in the list:

```
pr item 3 :mass_murderers
```

will print out 'Manson' – the third item in the list. Using 'item' to extract a specific item from the list means that in some ways you can treat simple lists as corresponding to arrays in BASIC. `count` is useful too – it tells you how long a list is: `pr count :mass_murderers` will produce 4 in reply.

Lists are also known as 'sentences' by Logo, which accounts for the otherwise obscure name of the primitive to make several items into a list, 'se':

`(se "Bambi "Dumbo "Bimbo)` produces [Bambi Dumbo Bimbo]

`(se "Bambi [Dumbo Bimbo])` does the same

`(se [Bambi Dumbo] :mass_murderers )`produces the combination of [Bambi Dumbo Crippen Ripper Manson Kray)

There is no inverse of the 'item' command, you can't insert a word at an arbitrary position in a list. You can only put things at the start or end of a list, or join two lists together.

Lists within lists

This is all very well, but sequential lists of one name after another aren't terribly useful. Where things start to get really exciting is when you realise that the items in a list can be lists themselves.

For example, suppose you are building a car and you want to categorise and subdivide all the different parts into their components for stock control purposes.

car = wheels (4), engine (1), chassis (1)

engine = exhaust pipe (1), drive shaft (1), cylinders (6)

cylinder = case (1), gasket (1), spark plug (1), piston (1)

The best way to represent a set of 4 wheels is with the two-element list [wheels 4], ie. item name then quantity. You could describe the car by the list

```
[ [wheels 4] [engine 1] [chassis 1] ]
```

The wheels and chassis are parts in their own right, but the engine is subdivided into more constituent parts which are held as another list

```
[ [exhaust_pipe 1] [drive_shaft 1]
[cylinder 6] ]
```

and the cylinder is itself described by another list.

The challenge is to write some Logo procedures that will be able to read this list-of-lists and work out what belongs to what. Start Logo up and type in Listing One.

```
to print_whole :wotsit1 :number1
(local "part "rest)
if (or (emptyp :wotsit1) (not listp :wotsit1)) [stop]
make "part (first :wotsit1)
make "rest (bf :wotsit1)
print_part :part :number1
print_whole :rest :number1
end

to print_part :wotsit2 :number2
(local "name "qty)
make "name (first :wotsit2)
make "qty (last :wotsit2) * :number2
if (emptyp (thing :name)) [pr (se :qty :name)]
print_whole (thing :name) :qty
end

make "car [[wheels 4] [engine 1] [chassis 1] ]
make "engine [[exhaust_pipe 1] [drive_shaft 1] [cylinder 6]]
make "cylinder [[cylinder_case 1] [gasket 1] [spark_plug 1] [piston 1]]

make "gasket []
make "chassis []
make "spark_plug []
make "piston []
make "cylinder_case []
make "exhaust_pipe []
make "drive_shaft []
make "wheels []
```

▲ Listing One

'print_whole' is a program which will take the three lists of parts for car, engine and cylinder and will work down the list printing out all the individual parts for the car. You tell it how many cars you want to make and it tells you how many of each part to order. For example, `print_whole :car 3` tots up the components for 3 of everything in the car list.

```
?print_whole :car 3
12 wheels
3 exhaust_pipe
3 drive_shaft
18 cylinder_case
18 gasket
18 spark_plug
18 piston
3 chassis
?
```

This is where the business of recursion rears its head again. The essence of programming with lists is that you write a procedure to handle a simple list, and if you are faced with a more complex list then you break it down into simpler ones and call use the same procedure on those lists, repeating until the lists are simple enough to deal with.

Every part of the car is either a basic component (like a wheel) or is made up of other components (like the engine). The basic parts are stored as variables whose value is `[]`, a list with no items in it. The compound components are lists of pairs of basic components and their quantities.

'print_part' takes a simple list like [wheels 4] and prints on

Sneaky editing

When you type `save "filename` in Logo it writes everything in its memory to a file called 'filename.log'. If you have a text editor like Protext (the PCW's standard RPED editor will do) you can edit this file directly as it is simple text. This way you can remove unwanted facts that are cluttering up the database.

the screen '4 wheels'. It takes a number as well, the number of copies you asked for, so if you wanted 3 cars '12 wheels' comes out instead.

'print_whole' takes a list of the form [[a b] [c d] [e f]...] as its first argument. It takes the first pair in the list, [a b], and passes it to 'print_part' for printing together with the number of them required, and then takes the rest of the list (`bf :car` means 'all but the first' of :car) [[c d] [e f]...] and recursively calls itself with that. When the whole object has been fully described 'print_whole' finds it is being passed an empty list to print so it knows it is time to stop.

If you are confused by the flow of control try running the program with trace on to see how the different procedure calls act.

A couple of points need clarifying: first, because the procedures are recursive the variables they use ("first, "rest, "name, "qty) must be declared to be 'local' otherwise future calls of the procedure will alter the values unwittingly.

The primitive `thing` is vital to this program (its name implies it was probably a very late afterthought to the Logo designers). If you have a variable `fred` whose value is `123`, say, and a variable `bill` whose value is `"fred`, then `thing :bill` will give you `123`. `thing` works out the contents of the contents. Thus, in the car example, given the list [engine 1] meaning there is 1 engine, `first [engine 1]` gives you `engine`, so `thing (first [engine 1])` gives you the actual list of the components held in the variable `engine` and allows you to get to the next link in the chain.

One small primitive not used before is `emptyp`. 'emptyp' is a test which either returns true or false; if it is given an empty list it returns true, otherwise false. It is therefore useful for testing to see whether the end of the chain has been reached.

The virtue of lists is that you can go on making them bigger and bigger as your program collects more data (compare this to BASIC where the size of the array has to be fixed before you run the program). The disadvantage of lists over arrays is that lists are sequential access rather than random access and so tend to be slower to use in programs.

The Logo database

One idea that Logo has that really distinguishes is from most other languages is having a built-in database. Essentially you can just type in a set of facts in any order you like, without having to worry about setting up variables and all that stuff, and Logo can keep them in the right categories and print out summaries for you.

The database revolves around the idea of 'property lists'. Any Logo name can have a list of properties associated with it; for instance you might associate with someone's name a list of their marital status, number of kids, inside leg measurement and so on.

Listing Two is a list of facts that an unscrupulous terrorist out to undermine the very infrastructure of the free world might collate. Type it in to Logo.

```
pprop "Thatcher "favourite_colour "puce
pprop "Thatcher "politics "right_wing
pprop "Thatcher "age "60
pprop "Reagan "favourite_colour "turquoise
pprop "Reagan "politics "right_wing
pprop "Reagan "age "95
pprop "Liberals_SDP "politics "dont_know
```

▲ Listing Two

```
?pps
Liberals_SDP's politics is dont_know
Reagan's age is 95
Reagan's politics is right_wing
Reagan's favourite_colour is turquoise
Thatcher's age is 60
Thatcher's politics is right_wing
Thatcher's favourite_colour is puce
?
?plist "Reagan
[age 95 politics right_wing favourite_colour turquoise]
?
?glist "age
[Reagan Thatcher]
?
?gprop "Liberals_SDP "politics
dont_know
?
```

If you now type `pps` (for 'property pairs'), Logo will parrot all these back to you in canned English such as "Thatcher's favourite_colour is puce". All Logo is doing is printing out the first name followed by 's, the name of the property, "is", and the value. You can get extraordinarily silly sentences coming out of Logo: `pprop "table "legs "4` (meaning a table has 4 legs) followed by `pps` will reveal that "table's legs is 4".

As well as printing out the whole property list database you can also print out a specific individual's property list, get the value of a particular property or delete it.

`plist "Reagan`

will print out all the facts about Ronnie that Logo knows about. It comes out in a terser form than pps produces [politics right_wing favourite_colour turquoise age 95]. You can see how the information is stored – a simple list of property names followed by values. Although not very good English this has the advantage that it is a proper Logo list structure so you could assign it to a variable by `make "Reaganlist (plist "Reagan)` and then use Logo's list dissection commands to extract the information and take suitable action.

`glist` complements plist – it prints out a list of all the names that have a certain property defined. So

`glist "age`

`prints out [Reagan Thatcher] but excludes Liberals_SDP.`

`gprop` will get a specific named property from an individual: `gprop "Reagan "age` will unearth Reagan's age and print 95 out. `remprop` completes the set and will remove a property from a list. `remprop "Reagan "age` will do what the CIA have failed to do for the last seven years and delete his age from the records.

You can save the contents of the Logo database just like any other Logo definitions. Typing `save filename` ('filename' can be anything you like) will cause the entire database contents to be written to the disc file specified. `load filename` in a subsequent session will restore the data you created.

EXIT

p's and q's

It is a convention that primitives which test whether a condition is true end in 'p'. Thus emptyp tests whether a list is empty, listp tests whether a variable is a list. The 'p' stands for 'predicate', if that helps you. Programmers in cafés who want to share a bowl of soup often ask, "Split-p soup?"

Read 'em and weep

This article concludes our introduction to the Logo language and commands. Next month there will be a reference chart summarising all the Logo commands and how they are used.

If you want to learn more about practical Logo programming your best bet is to buy a book. Unfortunately there are lamentably few books specifically on Dr. Logo on the PCW. Two titles from Glentop (01-441 4130), both written by Martin Sims, are *Logo Pocketbook* (a reference guide only at £3.95) and *Using DR Logo on the Amstrad* (a fuller tutorial at £8.95). These only cover the turtle graphics side of Logo and stop short of the 'property list' commands.

A good buy is *Getting Started with BASIC and Logo on the Amstrad PCWs* by F.A. Wilson (£5.95, Babani, The Grampians, Shepherd's Bush Road, London W6 7NF). This only devotes 20 pages to Logo, but it is simple and more comprehensive. Academic sections of bookshops may well have Logo books, but these can be a little expensive and/or incomprehensible.

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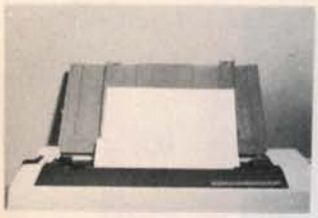

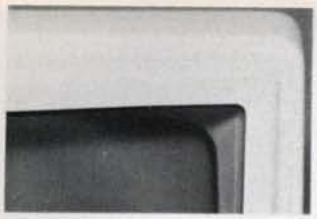

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LANGFORD'S PRINTOUT

A page foolishly handed over to SF author DAVID LANGFORD who just happens to own an AMSTRAD

SPEAKING IN TONGUES

Once, being able to program computers was an awesome (if dreary) accomplishment. Friends would regard you with mingled amazement at your abilities and fear that you might bore them to death by talking in binary. Later things changed, and programming's public image became more like that of rock music: a field where teenagers made fortunes by writing games called *Manic Space Goat Attack* which did little for the human condition....

Since nowadays we all have computers, it's tempting to dip a toe into the water and play around with a program or two. The good news is that you can use LocoScript or your favoured word processor to write programs, provided you save the result in ASCII (plain text, no frills) format. A program is just a list of text instructions, after all.

This is handy, because one tradition of programming languages seems to be that editing program text is a horrible business. Most versions of BASIC offer "line editing" only – that is, to edit line 100 you type EDIT 100 and then enter special and esoteric codes to make the actual changes. Mallard BASIC is unusually luxurious in that it actually lets you use arrow keys to move back and forth along the line. MicroSoft's "industry standard" BASIC won't let you move the cursor leftwards – a hangover from the days of teletypes, when a line was displayed once and for all, and if you wanted to edit to the left you had to finish and start all over again with EDIT 100.

(Of the languages I've used on micros, only Borland's Turbo Pascal has really good, built-in, full-screen editing facilities.)

Programs can damage your health

It's worth thinking long and nervously before playing around with programs, for two reasons. One is that programming's addictive: a simple exercise can swell to thousands of lines, by which time, if you've chosen an unclear language, you'll no longer understand large chunks of it. The second reason is Christopher Priest's Law: "You Get Used To What You've Got." Hell hath no fury like the user who's still word-processing postcard-sized documents with one finger on an old Sinclair ZX81, and is told that the PCW is much better. He insists it isn't better. He's addicted to what he's got. Don't get addicted to a mediocre language.

What you've got is of course BASIC, some version of which comes free with most micros. It's easy to start with – to add two and two and print the result you can enter `PRINT 2+2`, as opposed to the dozens of lines this might take in a long-winded "professional" language. The trouble with BASIC is that it's also easy to lose track. You have to use numbered line references instead of meaningful labels when moving around the program, and the same applies to subroutines (bits of program designed to be used several times in different contexts, the way your built-in "Please Go Away" subroutine is equally useful for Jehovah's Witnesses or double-glazing salesmen). It's a real drag remembering whether it's line 10000 or 21334 that has the "print lewd limerick" routine. In a sensible language, couldn't we give the subroutine the memorable name LIMERICK and invoke it by name?

Oddly enough, this works in the Assembler supplied with the PCW (though never explained in the manuals). It's odd, because Assembler is primitive indeed: to use it at all, it's safest to be a computer fanatic with vast experience. You also need books explaining how to call CP/M functions, without which you can't even show the result of adding 2 and 2! I haven't space for an Assembler program which could add and display two numbers. It's fast, it makes the best possible use of computer memory, and it drives you bananas.

They all add up

There are languages which are interesting and useful in the world of big bad computers, but would be a bit eccentric for PCW use. FORTRAN is mainly for scientific number-crunching: you can give meaningful names to subroutines but not to individual lines, and printing the result of 2+2 would need three lines: one to add 2+2, one to print the result, and one to specify the format in which it's printed. FORTH is great fun if you like "reverse Polish notation" and know what a "stack" is: our 2+2 example in FORTH would go `2 2 + .` (the dot in FORTH is "print number at top of stack")....

The serious contenders for the title of most popular, powerful and lovable small-computer language are Pascal and C. Personally I find C inscrutable: a pal uses it at work, and loves to explain how *one line* of C was recently passed round a roomful of professional programmers at ICL, not one of whom could decide what the line actually did.

So Pascal's my choice – Borland "Turbo Pascal" for preference, this being available for so many micros that you can transfer your programs anywhere. When you've defined a "procedure" (alias subroutine) called Limerick, you can run it from anywhere in the program by just entering Limerick... no line numbers to remember. Variables can all be given long memorable names, too. Pascal was originally designed as a teaching language which made it hard *not* to program clearly, and modern versions have the ease demanded by beginners together with the power needed by experts. Oh: in case you wondered, the Pascal command would be `Write(2+2);` (you can tell it's a classy language; nearly every line ends with a posh semicolon).

But nothing's more contentious than computer languages, and if I'm not here next month it may mean that a C devotee has stabbed me from behind with a sharpened pointer variable....

EXIT

GENEALOGY CORNER

All programming languages are ways of converting something vaguely intelligible into the horrible mass of numbers called machine code, which make sense to the computer. (Assembler is just machine code slightly prettied up.)

FORTRAN and Algol are the great original languages. BASIC owes a lot to FORTRAN. COBOL is an entrenched but inefficient language used in business, where repairing duff COBOL programs is a never-failing gold mine. Pascal is based on Algol and has spawned a souped-up version called Modula-2. C is based on languages no one has ever heard of, called BCPL and B. FORTH is only one step away from Assembler. Logo is unusual in being based on graphics (usually a non-standard "extra"). The trendy languages LISP and Prolog are much loved by artificial intelligence buffs. The US Department of Defence wants everyone to use their new language Ada... and there are far too many more.

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TRIVIAL PURSUITS

Four more pages of BASIC listings to help you Make Friends and Influence People

Vocabulary Tester

Michael Chapman

As winter draws on people start rushing out in droves to evening classes in Spanish or Italian so that they can really impress the waiters on holiday next year. To help these enthusiastic souls we reproduce this simple vocabulary testing program.

We have set it up as a French tutor but of course you can use it for any language that the PCW has the correct character set for. All you do is put in the appropriate details in the Data lines from 10 to 150 (these all start with the word DATA). Put in the first foreign word and then the English translation both in quotes, separated by a comma. List all the words in the same way until the end of the line, where you start a new DATA line. You can put in up to 149 data statements – if you know that many foreign words.

```
10 DATA "Le chien","The dog", "le chat","the cat","Magnifique!", "8000Plus    180D
20 DATA "La plume de ma tante","The plume of my aunt"                        137F
150 DATA "END","END"                                                         0597
160 PRINT "        VOCABULARY TESTER"                                        0C2B
170 READ a$,c$: IF a$="END" THEN RESTORE:GOTO 220                            0FC8
180 b=b+1                                                                    026F
190 PRINT "What is the French word for ";c$;: INPUT b$                       146E
200 IF UPPER$(b$)=UPPER$(a$) THEN LET c=c+1: PRINT "CORRECT": GOTO 170       1839
210 PRINT "Wrong!": PRINT "The correct answer is ";a$: GOTO 170              17A5
220 PRINT"You scored ";c;" out of ";b;                                       00F6
230 INPUT "Try again Y/N";z$: IF UPPER$(z$)="Y" THEN RUN: ELSE END           17BE
```

"WELL, IT'S JUST AS MUCH A FOREIGN LANGUAGE TO ME"

```
Ok
run
        VOCABULARY TESTER
What is the French word for The dog? le chien
CORRECT
What is the French word for the cat? le cat
Wrong!
The correct answer is le chat
What is the French word for 8000Plus? Magnifique!
CORRECT
What is the French word for The plume of my aunt? La plume de ma tante
CORRECT
You scored  3  out of  4 Try again Y/N? _
```

So when the program runs it asks for the words for *the dog* you naturally write *le chien*. It doesn't matter whether you type your answers in upper or lower case.

If you do want to use it to test your skill in another language you will want to change line 190 to read "What is the Serbo-Croat for" or whatever is suitable – just to avoid confusion. The program does not need to be limited solely to vocabulary testing. You can use the same format for any question and answer set-up by adjusting line 190 to ask the right question.

For example, if you make line 190 just print out "What is:" and the DATA statements were `DATA "Istanbul", "The capital of Turkey", DATA "15","The number of players in a rugger team"` and so on, then you have an instant Trivial Pursuit game.

More programs needed!!!

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Send your listings to *Listings, 8000 Plus, 4 Queen Street, Bath BA1 1EJ.* Please allow up to 40 days for return of your disc – the listings are assessed in a batch once a month.

Loco 2 Word Counter

Stephen Gourley

Word counters may be mundane, but they are the one utility that everybody who does any wordprocessing needs. Since issue one we have been producing a series of word counter listings, but this month's surely has the last word.

It might seem a bit long and complicated compared with some others we have published but this one is far more accurate (so Mr. Gourley claims) than its predecessors and more important it works on LocoScript 2 files. That should surely make it worth the effort.

The increased accuracy is brought about by the fact that hyphenated words are counted as one word, numbers are not counted (unless they have at least one letter as in 1970's) and the words 'a' and 'I' are counted.

To run the program on a file, make sure you have stored the Loco 2 document in *group 0* of your LocoScript work disc. Then start up CP/M, load the wordcounter program in BASIC, run it and follow the prompts.

The process is not particularly fast but it can be speeded up by moving the file you are counting into M drive first of all (using `PIP M:=A:filename` before you start BASIC). When the program asks you for the filename add 'M:' before the name as in the screen example shown.

```
B)pip m:=a:read.me

B)basic

Mallard-80  BASIC with Jetsam   Version 1.29
(c) Copyright 1984  Locomotive Software Ltd
All rights reserved

31597 free bytes

Ok
run "loco2
Name of Locoscript file to be counted? m:read.me
Total number of words in m:read.me is  811
Ok
```

```
10 MEMORY,,,255                                                                                                    0402
20 INPUT"Name of Locoscript file to be counted";file$                                                              14B1
30 OPEN "R",1,file$,255                                                                                            06AA
40 FIELD 1,255 AS buff$                                                                                            06AA
50 GET 1                                                                                                           02AE
60 FOR i%= 1 TO LEN(buff$)                                                                                         0913
70 a%=ASC(UPPER$(MID$(buff$,i%,1)))                                                                                0A5B
80 IF NOT z% THEN s%=i%                                                                                            0778
90 IF z% AND i%-s%>3 AND (a%<34 OR a%>91) THEN space%=0:word$="":counter%=0                                        1835
100 IF counter%=1 AND (a%<34 OR a%>91) THEN space%=0:word$="":counter%=0                                           18DA
110 IF a%=1 THEN space%=-1:word$=word$+CHR$(a%):counter%=counter%+1                                                18EF
120 IF a%=6 AND counter%<2 THEN word$="":space%=-1:word$=word$+CHR$(a%):counter%=2:s%=i%:z%=-1                     2053
130 IF NOT space% THEN 250                                                                                         0880
140 IF space% AND a%>64 AND a%<91 THEN word$=word$+CHR$(a%):counter%=counter%+1                                    1B7A
150 WHILE counter%=3                                                                                               07E0
160 w$=MID$(word$,2,1):x$=MID$(word$,3,1)                                                                          0D26
170 IF w$=CHR$(1) OR w$=CHR$(6) THEN word$=LEFT$(word$,1)+RIGHT$(word$,1):counter%=2:GOTO 240                      2194
180 IF x$=CHR$(6) THEN word$=LEFT$(word$,1):counter%=1:GOTO 240                                                    1754
190 word%=word%+1                                                                                                  0715
200 IF x$=CHR$(1) THEN space%=-1 ELSE space%=0                                                                     0F8A
210 word$="":counter%=0                                                                                            07F6
220 z%=0                                                                                                           021C
230 IF space% THEN word$=word$+CHR$(1):counter%=1                                                                  1044
240 WEND                                                                                                           031A
250 NEXT i%                                                                                                        0369
260 IF NOT EOF(1) THEN 50                                                                                          079D
270 PRINT CHR$(7);"Total number of words in ";file$;" is ";word%                                                   177E
280 CLOSE 1:CLEAR: END                                                                                             0823
```

Escape Codes

Richard Fletcher

This month's CP/M article is an introduction to the mystical world of Escape Codes which makes it most apt that we should reproduce here an ingenious practical demonstration of Escape Codes in action.

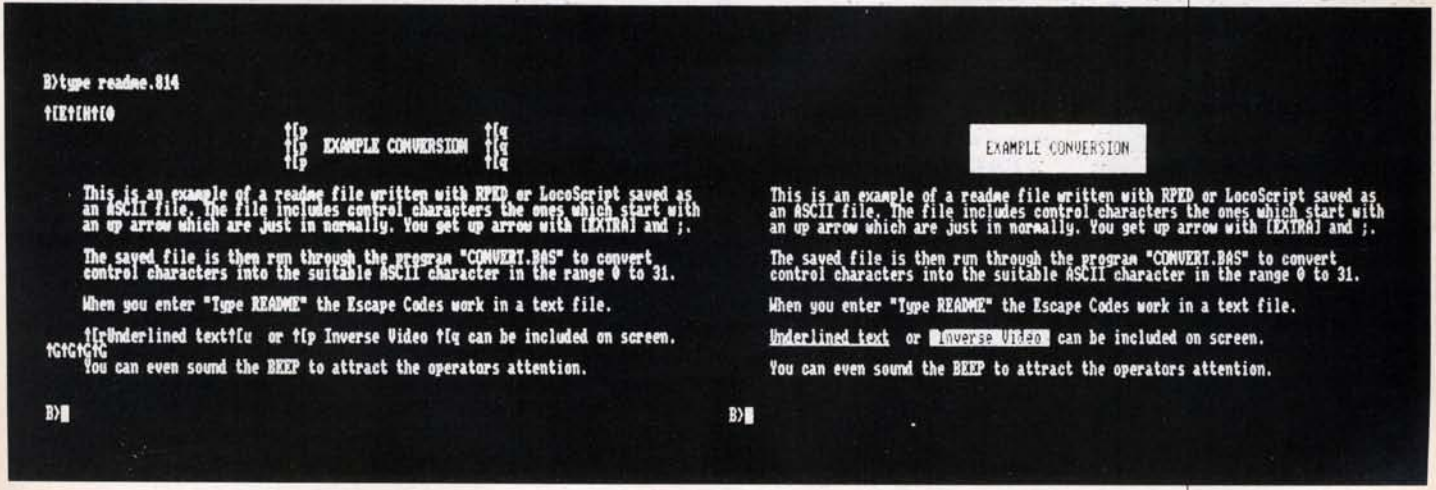
It is easy to produce an ASCII file (in LocoScript or any word-processor) which you can print out on screen with the CP/M command `TYPE filename`. The only problem is that by making it an ASCII file you take out all those fancy screen effects, underlining or reverse video that make it look interesting.

This listing puts all these effects back in, and more. Where you want the Escape codes (see the CP/M article on pages 25 and 26 for the one's you can use) put a ^ in the text to show that the next characters are to be converted into a code – you get ^ using [EXTRA] and U. Then use a] for ESC and the letter or number. So you put ^]p where you want reverse video on and ^]q where you want it to stop. ^]r starts underlining and ^]u switches it off. You can even use put ^G to make the PCW bleeper warble which will surely catch anyone's attention (or ^G^G^G for real emphasis). ^@, ^A ... ^Z correspond to the ASCII codes 0, 1 ... 26 etc – the PCW CP/M manual gives details of what keystrokes correspond to what ASCII codes on pages 113ff (PCW8256/8512) or 547ff (PCW9512), and also what codes you need to use to get the effects you want on the screen.

Then run the program and give the name of the ASCII file when asked. It will convert the codes into a form that the PCW will understand. So if you are letting someone else use your PCW you could write out full instructions in a file README and tag an instruction `TYPE README` at the end of your PROFILE.SUB. Then just let them dare to get things wrong.

You can even write yourself simple files to effect printer control codes in the same way (again see the CP/M article). The only warning is to make sure you don't use ^ followed by an ASCII code character less than 64 in your text.

```
10 INPUT "Enter filename for conversion : ";file$                                   1514
20 IF FIND$(file$)="" THEN PRINT "NOT FOUND":GOTO 90                               122D
30 NAME file$ AS "tempfile.$$$"                                                    09E8
40 OPEN "I",1,"tempfile.$$$":OPEN "O",2,file$                                      0DA6
50 WHILE NOT EOF(1)                                                                0700
60 LINE INPUT #1,line$:GOSUB 100:PRINT #2,line$                                    1163
70 WEND                                                                            0334
80 CLOSE 1,2:KILL "tempfile.$$$"                                                   0AD6
90 END                                                                             0219
100 s$="":FOR i%=1 TO LEN(line$)                                                   0B14
110 c$=MID$(line$,i%,1)                                                            0595
120 IF c$="^" THEN i%=i%+1:c$=UPPER$(MID$(line$,i%,1)):c$=CHR$(ASC(c$)-64)         16C9
130 s$=s$+c$                                                                       0293
140 NEXT i%                                                                        0366
150 SWAP s$,line$                                                                  0613
160 RETURN                                                                         03BD
```



BASIC Checker again

by Adrian Wilkins

Newer readers may wonder what these mysterious numbers are that we put at the end of the lines. These relate to an ingenious checking program sent in by reader Adrian Wilkins to help you check that you have typed in your listing correctly. And for anyone wanting to take advantage of this invaluable service we are reprinting the listing.

What this program does is look at your listing and print out a code at the end of each line. Check this code with the code in the magazine and if they differ look closely at that line for your mistake.

Of course you have to get this program running without the benefit of this high technology. But once you have it running successfully you can use it to check any listing. The only thing you have to remember is to save your listing in ASCII form: where you would normally type `SAVE "PROG"` to save it, type `SAVE "PROG",A` instead.

Then run the Checker program. When it asks for the filename enter the name of your listing saved in ASCII form. It then prints out the listing with the numbers. Before you can make any changes to the listing you will have to load it in the normal way – `LOAD "filename"` and make your changes.

```
10 INPUT "Program name ",prog$ : IF INSTR(prog$,".") = 0 THEN prog$=prog$+".bas"
20 IF FIND$(prog$)="" THEN PRINT "Program not found" : PRINT : GOTO 10
30 LPRINT CHR$(15);CHR$(27);"W1";
40 LPRINT "Checksum listing of file ";UPPER$(prog$); " for 8000-PLUS"
50 LPRINT CHR$(27);"W0"
60 OPEN "I",1,prog$
70 WHILE NOT EOF(1)
80 LINE INPUT #1,z$
90 y$=UPPER$(z$)
100 check%=0 : j%=0
110 FOR i% = 1 TO LEN(y$)
120 y%=ASC(MID$(y$,i%,1)) : IF y%=32 GOTO 200
130 IF y% <> &HFC GOTO 180
140 PRINT "Error - Program was not saved in ASCII mode" : PRINT
150 PRINT "Do the following...","LOAD ";CHR$(34);prog$
160 PRINT ,,"SAVE ";CHR$(34);prog$;CHR$(34);",A" : PRINT
170 PRINT "and run the checksum program again" : PRINT : GOTO 230
180 j% = j% + 1
190 check% = check% + (y%-32) * (j% MOD 7) +1
200 NEXT
210 LPRINT z$;TAB(120);HEX$(check%,4)
220 WEND
230 CLOSE 1 : LPRINT CHR$(18);CHR$(12);
240 END
```

How to type in a listing

The first thing to do is to load Mallard BASIC. Turn on your PCW and put the copy of the CP/M master disc in drive A.

When the A> prompt appears type `BASIC` and press [RETURN]. After a few seconds a message about Mallard BASIC will appear on the screen, ending with the prompt 'Ok'.

Type in each line carefully, starting with the line number and ending with [RETURN]. The four figure number code on the extreme right of each line should *not* be typed – this is for checking purposes as described in the Checker program listing.

Be careful not to mix up capital `I`, lower case `l` and the digit `1`, capital `O` with the digit `0`, colons and semicolons, commas and full stops.

You should always save any listing to disc before running it. to do this type `SAVE "PROGRAM"` – you can choose any name you like up to eight letters in place of PROGRAM.

When you've finished, type `LIST` [RETURN] and the whole program will appear on the screen. Check it, and if any lines are wrong correct them with the 'line editor'.

For example, if there is a mistake in line 100 type `EDIT 100` [RETURN]. Use the arrow keys and the delete key to correct the line, and press [RETURN] when finished. You can delete a whole line by typing its number and then [RETURN].

To run the program, simply type `RUN` [RETURN]...

But! It's more than likely that no matter how meticulously you typed in the listing it won't work first time. You may get an error message such as 'Syntax error in 100'. The line number given in any error message may not be exactly where the error is, it is simply where the program got stuck. You may have to look around for the mistake.

You can list out the program to the printer (use `LLIST`) and check it against the magazine copy.

When you find the mistake use the line editor as described to correct it, re-run the program and keep going until you have got it working. Don't forget to save the final working version to disc!

To leave BASIC and get back to CP/M type `SYSTEM` [RETURN].

To run the program another day, start up BASIC in the same way, put in the disc with the saved program and type `RUN "PROGRAM"` (giving the name you saved it under in place of PROGRAM, of course).

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dBASE DEMYSTIFIED

Frank Peters finds some Public Domain goodies to bring hope to anyone struggling with dBase II

It has to be admitted that dBase II is not the easiest database to get to grips with. But if you want more than just a simple database it is a flexible and powerful program with its own programming language with commands housed in a command file. The trouble is that it takes a long time to learn powerful languages when all you want to do is get stuck in.

dBase II Shell v2.0 was written by Jim Gronek for dBase II users who find it all a little over-powering and need to make frequent searches of the manual.

Shells are for first time users who go through that initial stage of fright when confronted with the frighteningly abrupt full stop command prompt and don't know what to do next. Shells have menu driven routines that display a list of possible directions to take, and with a press of a key you are saved the complicated task of thinking up and typing the correct command the program needed. Lots of helpful prompts are usually given on what to do next, and DB2SHL20 is no exception.

What is the codeword?

The shell for dBase uses three other command files that control the screen, printer and the applications menu. You need to tell it what Escape Sequences the PCW uses for clear screen/home cursor and clear to end of line – quite easy to write in.

The printer command file is well documented and simply needs you to have this month's CP/M article on Escape Code Sequences by your side as the PCW Manual is not exactly helpful when it comes to describing the sequences needed to get the PCW printer working.

The applications menu command file is really for those who have been using dBase for a while and for example, find using the 'do' command a little wearying – especially if you don't use a particular .CMD file often and forget what it was called exactly. Put it on the menu in APPLMENU.CMD and every time you select Z it appears in the main menu. One more key press and off dBase goes to 'do' it for you.

You may be wondering if all this eats up yet more disc space? You'll be happy to learn that the current version of Shell takes up just 44k on an A drive disc or 48k on B or M.

And there's more

As a taster of what else there is for dBase users in the Public Domain (and all for just a small handling charge), here are two more utilities.

DBCLINIC is a program written for Microsoft BASIC, and although the PCW's Mallard BASIC has differences it isn't too difficult to tweak to work.

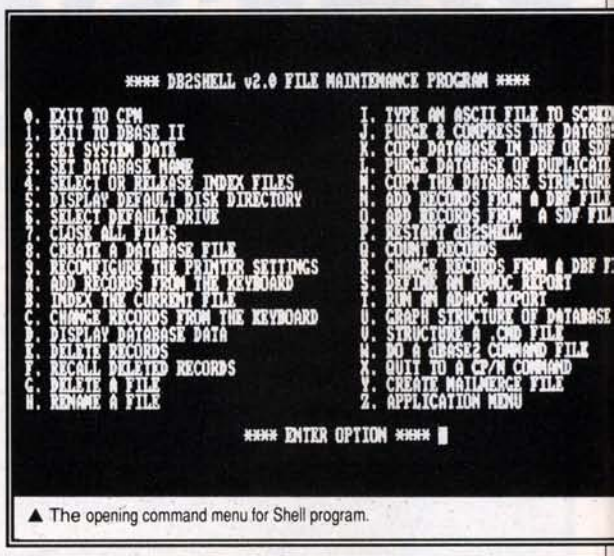
As its name suggests, it's a repair facility for dBase's '.DBF' and '.TXT' files that have become damaged or corrupted. This happens, for example, when you are about to close a database file and the Electricity Board decide to play its own version of Russian Roulette with your data, and your data loses.

On trying to re-open that file when the power is on again, you may find that the indexing information in the file does not reflect what is actually in the file, so it just won't work correctly. Enter the clinic.

There are five different 'Wards' of operation. Ward-A works out the record length of '.DBF' and '.TXT' files, Ward-B shows the structure header (indexing etc) information in '.DBF' files and Ward-C, the main part of the program, accurately works out the true length of the data base file and give you the total record count. Ward-D allows you to display and alter the record count in the structure header to what the result of using Ward-C says it should be in case it differs to what the header reckons it is. Finally, Ward-E allows you to change the 'last Update' date.

The last utility is DTUNE31, which takes any supplied command file, and leaving the original file intact, will ask questions about what you would like the program to do to this .CMD 'source file'. It asks if you would like to strip out unnecessary spaces, tabs, line feeds and comments, cut all reserved words and phrases to just four characters each, add nesting indentation, number each line and create a separate cross reference file of all the variables.

It leaves you with a heavily stripped down command file which dBase can still use with no operational difference to your original mammoth sized one, except that it takes up far less disc space and it is quicker. Keep the original command file for debugging and modification work and leave the 'tuned-up' version for operational purposes.



▲ The opening command menu for Shell program.

Where to Go

The CP/M users group publishes a quarterly newsletter and runs a vast software library. The software is free to members but there is a joining fee and a copying fee per disc. Send a large SAE to *The Secretary, CP/M User Group, 72 Mill Road, Hawley, Dartford, Kent DA2 7RZ.*

Another set up is *PD Software, Winscombe House, Beacon Road, Crowborough, East Sussex TN6 1UL* (08926 63298). Again, there are admin. charges.

If you have a modem, you can download software from Frank Peters' bulletin board (amongst others). This is active 24 hours a day on 0462 700644.

Go to the library

As with many Public Domain files these days, these files arrive in the form of a library. Just as a Public Library is full of books, a software library is full of files. You only see one file in the disc directory and the filename will have the last three letters as LBR.

The advantage of holding several files in a library, as opposed to individually on the disc, is that a library saves space. The way CP/M saves a file there is minimum size – in the case of the 8512 B drive 2k. So a file with only a single character in it will still take 2k on disc. A library runs each file immediately after the last one so that valuable disc space is not lost between files.

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The pages with more tips than a colliery's back yard

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This month's lucky person to play mine host to the 30-smacker cheque is L.K. Waymont of Coventry for his BASIC Corner contribution of a gaggle of good ideas for speeding up your BASIC programs.

Easy as A>, B>, C>

Users of the 8256 are already familiar with the need to change discs between a so-called B drive and the A drive even though they only have one drive. CP/M beeps and displays a message to 'insert disc for B' (into the A drive) and to press any key when ready. For example, if you type

```
PIP B:=A:ZAP.BAS
```

and follow the prompts treating the disc to copy from as the 'A' disc and the disc to copy to as the 'B' disc then you will copy the file FRED.TXT from the one disc to the other without the need to go via the M drive as temporary storage.

However, on an 8512, the addition of the second drive, the real B drive, loses this facility (although there are now easier ways to PIP files from one single density floppy to another).

However with this very short program you can reinstate this extra drive on an 8512 – your machine now has two drives in the top right hand corner like an 8256 but called A and C.

Load CP/M and at the A> prompt insert side 3 of your systems discs (the Programming Utilities disc) and type `SID`. Then at the # prompt type `a` – you'll see `0100` followed by two spaces appear. Type `lxi h,BD2E` [RETURN] and after the next number (0103) enter `shld FE67` [RETURN]. After 0106 type `jmp 0` [RETURN] and after 0109 press [RETURN] only. The # reappears: insert your working copy of the CP/M disc and type

```
WA:CDRIVE.COM
```

and after the message `0001h record(s) written` the # shows up again; press [STOP] to return to CP/M's A> prompt.

On your working disc you now have a file called CDRIVE.COM; from now on you can add the extra drive to your 8512 by the command `CDRIVE`. If you now type `C:` you will be asked to insert the disc for drive C and the prompt will change to C>.

Having this phantom drive can be a real boon if you are running a SUBMIT file written for an 8256 which relies on the old B drive trick to work properly.

Ron Touw , Langford, Beds

```
A)sid
CP/M 3 SID - Version 3.0
#a
0100  lxi h,BD2E
0103  shld FE67
0106  jmp 0
0109
#WA:CDRIVE.COM
0001h record(s) written.
#^C
A)cdrive

A)pip
CP/M 3 PIP VERSION 3.0
*c:=a:profile.sub
Please put the disc for C: into the drive then press any key
```

LocoScript does *ordinary* characters too!

You can get normal QWERTY characters in LocoScript 2's 'Super Shift' mode without leaving your Cyrillic or Greek modes by entering them as [ALT] or [SHIFT][ALT] plus the characters.

Erik Kowal
Reading, Berkshire

Saving on paper

Large quantities of single sheet paper can often be found at rock bottom prices – usually damaged paper whose edges you can trim off, firm's headed paper with deep headers already removed, or old and weird sizes. Trying to make a TEMPLATE.STD for each size can occupy too many groups on a Start of Day disc, but LocoScript 2 has the answer.

Sort your paper into groups of similar length, create a new TEMPLATE.STD and set up your layout in f1=Actions (Document setup) for the shortest one. You'll have to specify the paper size of that sheet in SETTINGS.STD too.

Now edit the stock layouts (f2=Layout) and make a layout for each of the other paper widths by altering the margin size, giving each a suitable name at the same time (f7). Having saved the document and the new paper settings to SETTINGS.STD on group 0 too, you will have a base layout in the shortest of the paper sizes chosen; to write on paper of another size, having created your new document merely key f2, enter a new layout, and copy the appropriate stock layout.

In this way you can hold a variety of paper sizes in just a few groups.

John Lloyd
Ramsgate, Kent

Box clever

Cardbox database files can consume quite large quantities of disc space, especially if you back them up like you're supposed to. In addition to the actual data you see on the screen, Cardbox maintains an index of all the words which are highlighted, and this can easily account for up to half of the space. In use, this is worthwhile, but in a backup file it's just so much wasted space.

Cardbox can 'export' data, ie write it out to a file in various ways for use with other programs such as mailmergers. Such files do not have a separate index, although all indexing information is retained, and the data is held in a more compact form than when it is in a database. So, to produce a slimmed-down backup:

1. select 'Use Database' from the startup menu
2. give a CLear command to select all the records
3. give a WRite command
4. press O and enter a name for the backup file
5. press S until the message 'Start=beginning' is displayed
6. press M until the message 'Mode=internal' is displayed
7. press [EXIT] then G and your disc will burst into life. Remember to back up the format file too.

Should your precious database be killed in action, you can rebuild it from the backup as follows:

1. copy the format file onto a new disc, and the backup onto drive M for speed.
2. select 'Create database' from the startup menu.
3. give a REad command
4. press F and enter the name of your backup file
5. press [EXIT] then G and sit back as Cardbox reads in each record and recreates the index.

This method can be expected to save 35%-50% on space over a straight copy of the database.

Chris Lilley
Falkirk, Scotland

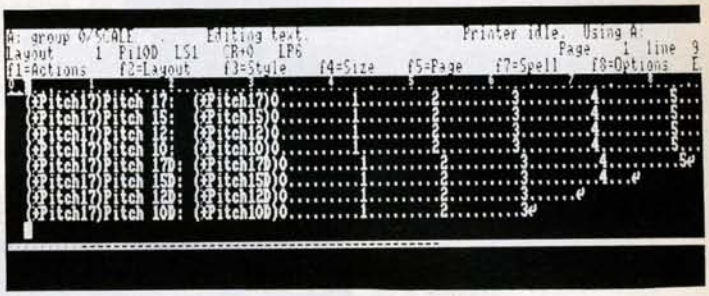
Famous last words

Users of LocoSpell have a quick way to search for any one of a group of words simultaneously (normally of course you can only use the [FIND] command to look for one specific word at a time, not 'Find Fred or Bill or Joe'). Set up a user dictionary with all the words, names etc that you use. If you temporarily erase the names or words you want to search for from your dictionary and then spell-check, LocoSpell will stop at the next occurrence of a word in the erased set.

Unfortunately you can't get at the main system dictionary, so you can only use this method to search for words that aren't in there – proper names and so on.

Ken Dunn
Southampton

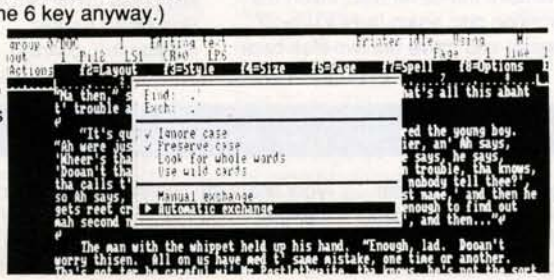
Measure for measure

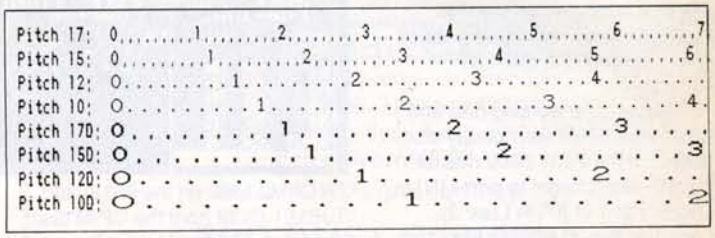


Quote, unquote

LocoScript 2 now has proper opening and closing quotes and apostrophes, as used in properly typeset books and so on. The pair "" is [ALT]2 followed by [SHIFT][ALT]2, while '' is [ALT]6 then [SHIFT][ALT]6. (They aren't hard to remember, since " is on the 2 key and ' on the 6 key anyway.)

It can be a real pain remembering to get each one as you're typing them in – you may prefer to enter normal straight quotes and then do an Exchange after editing. Using LocoScript's [EXCH] key, replace:
(space)" by (space)"
[RETURN]" by [RETURN]"
[TAB]" by [TAB]"
and then all remaining " to ". You then do the same for single quotes.





If you normally use 12 pitch text for your letters, you will know that the ruler on the screen doesn't correspond to that on the bail bar, which assumes 10 pitch text.

To avoid confusion you might like to print out a document such as the one here, and tape it to the front flap of the printer. It's an idea pinched from the "office typewriter" (remember them?).

Derek Holcroft
Dennistoun, Glasgow

Basic corner

Basically faster

Some tips to make your BASIC programs run faster:

1. When using variables, use integers whenever possible, especially as loop counters. For example,
`10 for i=1 to 10000:next i`
takes 9.0 seconds, but
`10 for i%=1 to 10000:next i%` takes 6.8 seconds.
2. Use variables to store all numbers, even when the number doesn't change. For example,
`10 for i%=1 to 1000:a=3.14159265*3.14159265:next i%` takes 13.1 seconds, but
`10 b=3.14159265`
`20 for i%=1 to 1000:a=b*b:next i%` takes only 3.7 seconds.
3. Write the program so that the most commonly used variables in the running of the program are set up first.
4. Put the most commonly called subroutines at the top of the program text, with the lowest line numbers.
5. Avoid writing to the disc or the screen as far as possible. If you want to store intermediate results, use arrays

If your program is still very slow in running, you could think of buying a 'compiler' such as CBASIC or ZBASIC. These are similar to the PCW's Mallard BASIC but run as a compiled language rather than an interpreted language – instead of each line being turned into machine code (interpreted) as the program runs, as in BASIC, the whole program is turned into code at the beginning (compiled), making the program run much faster. Some of the Mallard BASIC commands (in particular the Jetsam commands) won't work with these alternative systems since they weren't originally designed for PCW use.

L K Waymont
Coventry

Do not collect £200

When you're working on a BASIC program you can use GOSUB or GOTO commands directly, not just as part of a listing. This means you can test subroutines before incorporation within a program just by entering `GOSUB 3000`, or whatever the line number is, directly after the 'Ok' prompt. You can continue a program which has stopped somewhere by entering `GOTO 190` or some other suitable point to recommence. A direct GOSUB like this will return control to the keyboard as soon as a RETURN is encountered in the program, but a program entered using GOTO runs until it stops.

M G Surl
Bodmin, Cornwall

Key sera sera

Frequent users of BASIC may find it helpful to use the SETKEYS facility to assign to the function keys strings such as `LIST`, `RUN` [RETURN], `EDIT`, and `SAVE "`. For the last command remember you don't need the closing quote on the filename before hitting return. You put a quotation mark into a setkeys file by typing `^"`.

M G Surl
Bodmin, Cornwall

Freak OUT

An unusual effect can be had in a BASIC listing by the command `OUT 246,` followed by a number between 0 and 255 – this changes the vertical origin of the screen. You can return to normal by the command `OUT 246,255`.

Another interesting effect comes from entering `OUT 245,` and a number between 0 and 255, and you can return to normal by typing `OUT 245,91` (don't worry if you can't see this last line as you type it – it's going in!).

You can use these to make a fake 'malfunction' in your listings to deter the curious from finding out what happens when they press this or that key!

James Roskell
Poulton le Fylde, Lancashire

Black OUT

If your BASIC listing involves building up complex screen layouts you can make things look much slicker by putting the command `OUT 248,8` before the procedure and `OUT 248,7` after it has finished. This blanks out the screen while the PRINT statements run and turns it back afterwards, presenting the completed picture apparently instantly.

What these commands do is effectively turn the ink colour to black and then back to green again. The user has to look at a blank screen for a second or two, but the effect is quite neat and professional looking.

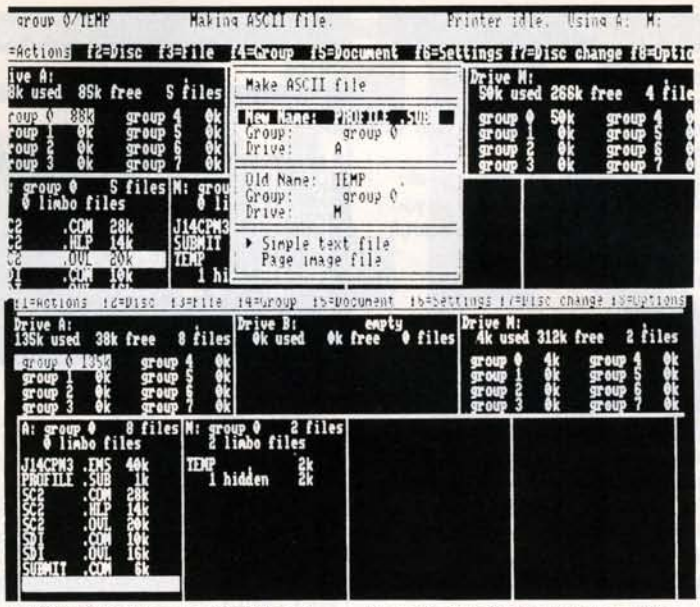
Andrew Porter
Hull, East Yorkshire

Making boot discs with LocoScript

Having self-start discs for your programs (SuperCalc2, AtLast etc) is great fun – just switch the machine on, put in the disc, and the program starts automatically. Many people must be shy of using CP/M to make their self-start discs with, but it's quite possible to make them from within LocoScript.

First load LocoScript, remove the start-of-day disc, and insert the working disc for the CP/M program that you are going to prepare a self-start disc for. If there is more than 47k free as shown on the disc manager screen you have enough space to make the disc self-starting.

Remove the working disc and insert your CP/M start-of-day disc, (side 2 of the PCW 8000 master discs) – don't forget to press [f1] in LocoScript 1 or [f7] in Loco 2). Copy the files J14CPM3.EMS (or J21CPM3.EMS on the 9512) and SUBMIT.COM from the CP/M disc into group 0 of the M drive.



Remove the CP/M disc, insert the working disc again (press f1 or f7 again) and move the two files back from the M drive into group 0 drive A. (On a PCW8512 you don't need to use the M drive as temporary store if you copy from the B drive to the A drive directly.)

Now create a document in the M drive called TEMP which consists of the line you would normally type to load the program (eg. for SuperCalc2 it would be `SC2`[RETURN]. Save and exit and make TEMP into an ASCII file using the 'simple text' option. (You make an ASCII file via [f7] in Loco1 and [f1] in Loco2). Give the new name as PROFILE.SUB and on the prompt move the cursor to its destination, group 0 in drive A. You should now have three more files on your working disc than before: J14CPM3.EMS, SUBMIT.COM and PROFILE.SUB.

Your disc should now be self-starting. To see the magic work, just press [SHIFT][EXTRA][EXIT].

Bob Baird-Fraser
Camberley, Surrey

Desert Island Tipoffs

For recent converts to the PCW, here is 8000 Plus's choice of the 8 tips that you would take if you were washed up on a desert island with a PCW and a 240 volt generator..

1. Printing: To stop a LocoScript printout (if your paper gets screwed up) you press [PTR] which puts you into printer control state, then f7 (reset) and [ENTER] to confirm. Then press [EXIT] to leave the printer control state. For LocoScript 2 the steps are [PTR], f1, select 'abandon printing', [ENTER] and [EXIT].

2. Groups: LocoScript's groups correspond to CP/M's user numbers – user 0 is group 0, and so on. If you start CP/M up (put in side 2 of the PCW master discs after turning on the PCW) then once you see the A> prompt insert your LocoScript disc and type `DIR` [RETURN] you'll see all the files in group 0 listed – CP/M works only in group 0 unless you move into another group by typing, say, `USER 6` at the A>. A `DIR` here will list out all your group 6 files, and an `ERA *.*` [RETURN] will erase all your group 6 files (but no others).

You can use the CP/M utility PIP to copy LocoScript documents – the advantage being that PIP can copy whole groups of documents from one group to another whereas 'copy file' only does one at a time. Suppose you want to copy all files from group 4 of an old disc to group 1 of a new one – run CP/M and type `PIP` after the A>. An asterisk prompt appears. Replace the CP/M disc with the old LocoScript disc and type `M:[g1]=A:*.*[g4]`.

You'll see all the files being copied. Then when the * prompt returns insert your new disc and type `A:[g1]=m:*.*[g1]`. By erasing the old files in group 4 of the old disc, (see tip 2) you can move whole groups of files to new discs.

LocoScript's 'limbo' files are stored in the user groups after user group 7. Therefore to find them in CP/M just add eight to the user group they came from – eg. a file erased from group number 5 has just been moved to group number 13.

3. Wildcards: In CP/M asterisks (called 'wildcards') can be used to stand for any name. Typing `era *.LTR` will erase any file that ends .LTR (for example TOM.LTR, DICK.LTR or HARRY.LTR).

Similarly say you have documents called LETFRED.DOC LETDICK.DOC and LETHARRY.DOC which you want moved to another drive at one go type `PIP M:=A:LET*.DOC` or even `L*.DOC` and everything starting with 'LET' or 'L' will be moved.

The ultimate is `ERA *.*` which will erase everything in the user group you are in or `PIP M:=A:*.*` moves every file in the group to M drive.

4. Caps lock: The PCW has a [SHIFT LOCK] key which switches the keyboard to upper case characters, but you can get the effect of a [CAPS LOCK] key, which prints letters as capitals but numbers as numbers, by pressing [ALT] and [ENTER]. The same combination releases the Caps Lock mode.

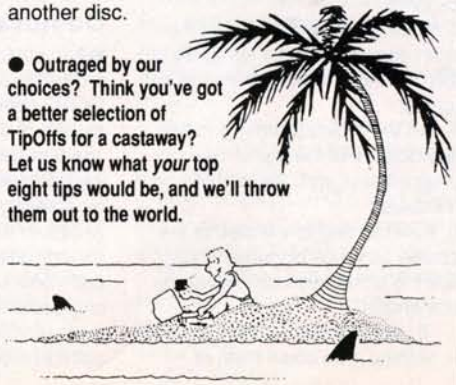
5. Screen dump: You can get a screen dump – a printout of whatever is on the screen – by pressing [EXTRA] and [PTR]. You can use this in LocoScript to get a copy of the disc manager screen, and so get a catalogue of your files (except in some early versions of LocoScript 2). Proud owners of the new 9512 will have to live without this since the daisywheel printer can't cope with screen dumps.

6. Overprinting: If you want you can overprint one line on top of another in a LocoScript document as follows. First make sure you're not in proportional spacing. Then type your basic line of text beginning it with [+]LS0 and ending with [RETURN]. On the next line print [+]LS1 (or whatever the line spacing was), type your line to be overprinted and then carry on as normal.

7. Dash it: There's no proper dash in LocoScript, but you can store `(+Pitch10D)-(-Pitch)` as a phrase with the [COPY] key (D would be a suitable letter to save it under). Then just pressing [PASTE] D will give you a nice long continuous dash instead of a short hyphen.

8. Disc full: If you try to save a document you are editing in LocoScript only to be told there isn't enough space, you'll be returned to the disc management screen with the message 'Make space for document!'. There may seem to be space on the disc but LocoScript does not realise this because it is taking into account the existing file you are editing and which will eventually be replaced by the new file you are trying to save. One way round this without erasing files may be to 'move' a few large documents over to the M: drive and then [EXIT] to return to the edit when the file will be saved to disc, overwriting the existing file.

You may then find room on the disc to move the documents in M drive back to the disc. This has to be done before you switch off or they will be lost. If there is not room on the original disc save the files you have moved on to another disc.



● Outraged by our choices? Think you've got a better selection of TipOffs for a castaway? Let us know what *your* top eight tips would be, and we'll throw them out to the world.

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These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Wordprocessors (including Desk Top Publishers), Accounts/ Payroll packages and Utilities. We've set out to cover every important piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for you.

Any software not listed here has either not been reviewed by us yet, or has been left out to make space for better programs. As well as a brief summary of what they do, the main Plus and Minus points for each program are listed – Pluses have a □ by them, Minuses a ▩. Those we think are particularly noteworthy have a corner flash. Have fun window shopping!

All software will run on both the 9512 and 8512, though the latter's daisywheel printer cannot print graphical output.

WORDPROCESSORS

LocoScript already comes bundled with its own word processor, so you might not think of buying another one as a priority. In fact, whatever you may have read in some magazines, LocoScript is a pretty good wordprocessor and you won't find many editing and layout functions it doesn't have. Its principal disadvantage was its slowness, but the release of LocoScript 2 has lessened that.

There are advantages to be had in changing. LocoScript cannot run from CP/M, and this may cause you trouble.

Many other word processors have a built-in 'mailmerger' program. This is a way of doing bulk mailshots; you store your address list in a data file, and write a letter with labelled gaps where you want the names and addresses to go. Then, when you print, the letter comes out once for each address, with the information in its correct place. Also, you often get a spelling checker thrown in free – look for one which allows its dictionary to be modified so you can include non-American spellings.

One thing's for sure, whatever word processor you buy it will be totally different to operate from LocoScript. The PCW keyboard is custom built to run it, and if you change you will have to get used to some arcane choices of keys to do even simple operations. Also, you won't be able (very easily) to use all the printer styles that you can in LocoScript, though there will be enough to get by with.

LocoMail — Best buy!

£39.95 • Locomotive/Amsoft • 0306 887902

As a mailmerger for LocoScript, it's difficult to see how anything could be better than this. It runs directly from LocoScript, and can process any LocoScript commands. Has many advanced features and is highly recommended for all LocoScript users.

PLUSES • MINUSES

- □ You don't have to run it from CP/M
- □ Can print any LocoScript text formatting commands
- □ Can automatically rejustify paragraphs after insertion
- □ Can insert numeric calculations into letters
- □ Can read data from non-LocoScript (ie. ASCII) files
- □ Large manual, with example files on disc
- ▩ No way to sort and filter addresses before a print run

Credit Controller

£24.95 • HPA Systems • 08697 508

A disc of ready made templates for use with LocoMail, turning it into a credit control system. Produces a lit of debtors to chase and writes suitable letters depending on the status of the customer.

- □ Makes clever use of LocoMail
- □ Saves you having to plough the LocoMail manual
- ▩ If you don't already have LocoMail it is expensive
- ▩ You could write your own templates for free by reading the manual

LernLoco

£16.95 • Minerva Systems • 0392 37756

A set of LocoScript files on a disc which are designed to be a step-by-step guide to using LocoScript. As you go through the lessons in turn, you print them out to form your own manual.

PLUSES • MINUSES

- □ Covers most LocoScript's features in well organised lessons
- □ Contains many useful tips and techniques
- ▩ Style of writing is patronising
- ▩ It is annoying to have to print out the documents as you go

Pocket WordStar — It's Wordstar!

£49.95 • MicroPro/Davis Rubin • 0386 853610

For many business users, word processing meansWordStar. Almost everything you could need in a text processor is here and despite the title this "Pocket" version has all the features of the original. Efficient and proven, but now showing its age and there are alternatives unless you are committed to WordStar already. £20 extra buys the De Luxe version with spell checker.

PLUSES • MINUSES

- □ Probably the world's most widely used word-processor
- □ Documentation is complex but well structured
- □ Includes a mail merge utility
- □ Keystroke commands fully described on on-screen menus
- □ You can save your own favourite customised version
- ▩ Doesn't make full use of the PCW keyboard and printer
- ▩ Page and margin formatting commands are awkward to use

NewWord — Powerful and proven!

£69.00 • NewStar Software • 0277 220573

NewWord sets out to exploit the WordStar market by doing the sme job better. It uses much the same key commands as WordStar and will even edit WordStar documents. Comes with a spelling checker, and the on-screen help is better than WordStar's, though the keystrokes are still as obscure.

PLUSES • MINUSES

- □ Does everything WordStar does, even reads WordStar files
- □ Spelling checker included
- □ Can un-erase words and lines
- □ Onscreen help better than WordStar's
- □ Full reformatting of text within mailmerger
- ▩ Weak on use of keypad and printer support
- ▩ Many of WordStar's disadvantages such as formatting troubles and obscure commands

THE GOOD SOFTWARE FILE

WORD-PROCESSORS

Qmail
Great value!
£29.95 • Proteus Computing • 01-748 2302

A mail merger specifically designed to work with LocoScript files. It scores over LocoMail in that it has a simple but effective database system to allow you to choose your target for a mailshot by marking them with 'attributes' and selecting – eg. only those customers who bought your product X.

PLUSES • MINUSES
- Reads LocoScript files and prints all LocoScript commands
- Well-designed database is ideal for mailmerging
- Database 'attributes' provide advanced selection capability
- Manual is lacking in examples
- No numeric calculation capability
- Doesn't read non-LocoScript files

Tasword 8000
£24.95 • Tasman Software • 0532 438301

Established wordprocessor well tried and tested on Amstrad's CPCs. Its strength is its printer handling – it provides a host of customisation options for different printers and a variety of print fonts too.
- Variety of printer controls and fonts available
- Includes mail merge program
- Fast at moving around big files
- Clear and well-structured on-screen help menus
- Doesn't treat [RETURN] as a character - can lose paragraph endings
- Reformatting text blocks is quirky
- Search and replace function is very slow

LocoSpell
A must for LocoScripters!
£39.95 • Locomotive/Amsoft • 0306 887902

The ultimate spelling checker for LocoScript users. It is run as a simple menu choice while you are editing a document normally, and you can check either an entire document or only a paragraph. When it finds an error, it suggests a correction . Reasonably fast, given LocoScript's inherent sloth.

PLUSES • MINUSES
- Runs totally from within LocoScript
- Can do small sections of a file
- Suggests alternatives for misspelled words
- Reformats the text as it makes corrections
- Provides the much-missed LocoScript word counter
- Can't remove spellings you don't like (eg -*ize*) from dictionary
- The manual gets bogged down sometimes
- Slow at scrolling the dictionary window

AnsibleIndeX
Author's best buy!
£49.50 • Ansible Information • 0672 62576

Takes a LocoScript file and compiles an alphabetical index with page numbers from all the words marked. You mark the words to be indexed by using LocoScript's (+RV) code. The price includes the AnsibleCheck word counter /proof reader program too, which is also available separately at £19.50.

PLUSES • MINUSES
- LocoScript documents don't have to be converted to ASCII
- Can 'invert' phrases, eg 'Smith, Fred' rather than 'Fred Smith'
- Can produce a single index over several different files
- The output index is not a LocoScript document until you convert it
- Can only index words appearing literally, not general topics

Teach Yourself LocoScript
£14.95 • LINC • 0273 776576

Disc of teach-yourself lessons for LocoScript. Better written and organised than LernLoco. The advantage over a book is that you can try things out as soon as you read about them, and see the effect on the text you are reading.

PLUSES • MINUSES
- Well organised lessons for you to browse through as you like
- Well-pitched style of writing does not talk down to you

LocoScript 2
Essential purchase
£19.95 • Locomotive Software • 0306 887902

As bundled with new 9512, the new version of everyone's first word processor. If you know how LocoScript 1 works, you'll have minimal relearning to do, and it puts right (almost) all the defects of the old version at a rock bottom price.

PLUSES • MINUSES
- 'Find page' command makes moving around faster
- Superb range of foreign accents and symbols available
- Can now drive daisywheel and other printers
- Has DISCKIT's formatting and copying built into it
- New 300-page manual
- Mailmerger and spelling checker not included
- Inconvenient for regular CP/M users
- Still no word counter!
- Still slow at Find, Exchange and scrolling

Grammatik
£49.95 • Optronics • 01-892 8455

A program which attempts to check your writing style (not spelling). It looks for clichés, tautologies, sexisms and so on. Potentially very useful, but to be taken with a pinch of salt.

PLUSES • MINUSES
- Shows up grammatical problems you never knew you had
- Marks up text for re-editing
- Lets you build up your own jargon dictionaries
- Needs to be used intelligently
- Can't spot contextual errors
- A little pricey for what it does

Protext
Best CP/M wp!
£59.95 • Arnor • 0733 239011

The best CP/M wordprocessor. Very fast at moving around large files, and packed with features. Works with key combinations rather than menus, but uses LocoScript keys too. Comes complete with a good spelling checker and a very powerful mailmerger.

PLUSES • MINUSES
- Complete with spelling checker/word counter/mail merger
- Packed with nice little touches, eg can print out a series of files with page numbers running on from each other
- Lets you work with two documents at once
- You can do all of CP/M's functions without ever leaving the word processor
- Very fast at moving around, doing exchanges and so on
- Forces you to learn another new set of control keys to use it
- Not as slick as LocoScript in its printer controls

Label Printer
£25.00 • Mi crodraw • 0622 685481

Very similar program to that above if not quite as powerful. Usual features of a labeller and you can store comments with each label's data.

PLUSES • MINUSES
- Menus simple – easy to get the program going
- Fast data entry
- Can store comments with each entry
- No import or export of data
- Data needs an entire disc to itself

Easy Labeller
£34.44 • M.A.S.S. • 00603 630768

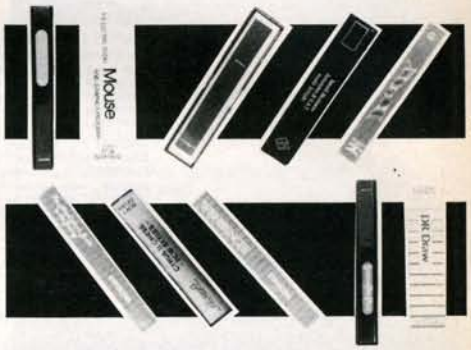
Labelling program which stores your names and address list and will print out in label format selected items from it. Very useful but you can't import data, so even if you already have your address book on file somewhere you still have to retype all the entries.

PLUSES • MINUSES
- Useful options like printing out current date
- Good search facilities
- Range of printing options will fit most stationery
- Data needs an entire disc to itself
- Data entry is slowed by returning to main menu between labels

TempDisc
£11.95 • Thurston Brown • 0395 68385

A set of ready-made TEMPLATE.STDs made up of fancy patterns of exotic characters for you to embellish and use with LocoScript. Essentially for social/personal business use. You could win £10 from the suppliers by designing your own!

PLUSES • MINUSES
- Using it tells you a lot about the intricacies of LocoScript
- You can achieve professional results without reading too much of the LocoScript manual
- You could write you own templates for free by reading the LocoScript manual
- You have to like ornate characters



Tas-spell
£16.50 • Tasman Software • 0532 438301

If you are a dedicated Tasword user, this could be interesting, but otherwise it isn't a very good spelling checker. Very slow, and it can't read LocoScript or WordStar files. Still, cheap though.

PLUSES • MINUSES
- Runs from within Tasword
- Cheap
- Very slow -- around 200 words a minute
- Only reads simple ASCII (ie. Tasword) files

Instant Business Letters
£14.95 • Eclipse Software • 0922 692258

102 LocoScript letters to cover every occasion, although some of the occasions are not exactly everyday – such as politely declining a speaking engagements.

PLUSES • MINUSES
- Saves you creating 102 standard letters of your own
- Written in a reasonable style
- Only a small number are seriously useful
- The letters don't seem to have been spell checked very well

Prospell
£29.95 • Arnor • 0733 239011

A stand-alone spell checker for use with almost any wordprocessor that runs on the PCWs. Reads LocoScript, WordStar and ASCII files, and allows you to make corrections directly, view the context, change the dictionary etc.

PLUSES • MINUSES
- Checks LocoScript and WordStar documents directly
- Displays the context of a suspect word
- Can edit misspellings directly from Prospell
- Anagram and crossword solvers too
- Doesn't work with LocoScript 2 files
- Processes files of 15k or more in sections

Pocket Protext
£39.95 • Arnor • 0733 239011

Stripped down version of Protext – essentially the same word processing features, but no spell checker or mail merger, and lacks one or two incidental facilities like two column printing.

PLUSES • MINUSES
- Extremely powerful word processor at reasonable price
- Fast and flexible
- No spell checker or mail merger
- Same occasional quirks in printing of the full version

AMSTAT & STATMODE

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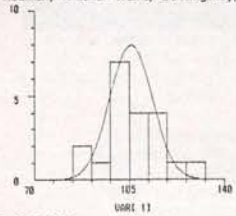
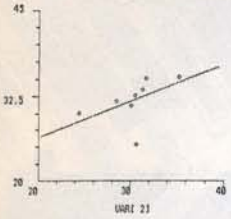
An array of business oriented mathematical and statistical software: Linear and Polynomial regression, Trend and Seasonal Variation, Multiple Regression Analysis, Transformations, Exponential Smoothing, Adaptive Filtering. Graphic display, full printout, manual suited to immediate use and for teaching. (Additional program for PC).



AMSTAT 4/ STATMODE 4: RESOURCE MANAGEMENT – LINEAR PROGRAMMING MODULE
General Purpose Linear programming + Specialised Transportation and assignment variants. Capable of analysing and solving problems of sequencing, scheduling, blending and allocation of scarce resources. 40 Page manual, 18 worked examples.



AMSTAT 6/STATMODE 6: SFANOVA
Up to 8–way analysis of variance for equal cell sizes. Unequal cell sizes on 1–way AOV. Maximum of 2000 data points (300 on unexpanded CP/M 2.2, 4000 on PC). Input from ASCII Files. Output to screen or text file with full AOV table + main and interaction means and Neuman–Keuls on main effects. Manual. (Disc only).

AMSTAT 7/STATMODE 7: RESOURCE MANAGEMENT II – STOCK AND PRODUCTION ANALYSIS
Calculation of economic order quantities for both single and multiple items. Dynamic programming to calculate optimum production schedules for single items and consolidation of several results into a multiple schedule. Also Pareto and Lorenz analysis. Output to screen or printer. Includes operational manual with worked examples.

The programs have applications in research of all kinds, education, sales, production planning, work and method study, financial planning, personnel, social work etc.

"I will certainly be using them myself in the future and no reviewer can offer a warmer recommendation than that." Dr. Peter Morris, Amstrad Professional Computing, May 1987.

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AMSTAT1	£25.95	£27.95	STATMODE1	£29.95
AMSTAT2	£39.95	£39.95	STATMODE2	£39.95
AMSTAT3	£25.95	£27.95	STATMODE3	£39.95
AMSTAT4	£25.95	£27.95	STATMODE4	£29.95
AMSTAT6	£25.95	£27.95	STATMODE6	£29.95
AMSTAT7	£25.95	£27.95	STATMODE7	£29.95

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LABEL PRINTER
FOR THE PCW 9512,8512,8256

★SPEEDY DATA ENTRY ★UNLIMITED CATEGORIES ★LOCOSCRIPT STYLE COMMANDS ★FULL ON SCREEN EDITING ★VARIOUS STYLES OF TEXT ★FLEXIBLE LABEL SIZING ★PRINT SINGLE OR MULTIPLE COPIES ★FULL SEARCH FACILITY ★DEDICATED DATABASE FOR LABELS ★FULL CONTROL OF PRINTER ETC.

Label Printer is not a database adaption but a purpose designed program that is very easy to use.

£25.00 including VAT and P&P

As reviewed in the July issue of 8000 Plus
(Please specify model)

NEW! for PCW9512
TYPEMASTER

Typemaster allows your 9512 to act as an electronic typewriter, ★FULL CONTROL OF PRINTHEAD ★WIND UP OR DOWN ½ LINE, CORRECTION WINDOW, ETC. Say goodbye to guesswork for forms, envelopes etc.

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GOODE SOFTWARE PRESENTS
* * QUASAR II * *

THE STATISTICAL PACKAGE FOR THE AMSTRAD PCW RANGE

This package is fully integrated with the Amstrad printer and allows the user to choose draft, condensed or high quality output.

1. **DATA EDITOR** (Uses full screen editor or line editor).
2. **ALPHABETIC/NUMERIC SORTER** (ascending or descending order).
3. **REGRESSION ANALYSIS** (up to 10 way). Ordinary Least Squares or instrumental Variables with and without an intercept. Twelve diagnostic statistics are also calculated.
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    Correlation (Pearson, Spearman, Kendall, Simple).
11. **MATHEMATICAL UTILITIES.** Solution of simultaneous equations and Quatratic equation solver.
12. **DATA TRANSFORMATIONS** Single and Double file (19 different)
13. **SPECIAL UTILITIES** (Backup, Merge, Insert, delete and Create)
14. **FORECAST** Six forecast equations and 4 extrapolation methods. Fully comprehensive 70 page manual with worked examples.

QUASAR is used by numerous British Universities, Colleges and Hospitals for research, as well as by people in Spain, Portugal, Sweden, Malta, Nigeria, Netherlands and Holland.

Putting Your Amstrad to work July 1987. *"It is invaluable for those who are interested in or need to use statistical packages."*

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ACCOUNTS • PAYROLL

M.A.P. Accounts — Powerful!
£149.00 • MAP Systems • 061-624 5662/3

This is a very powerful package moved onto the PCW at a fraction of its cost on larger micros. The size makes it a little cumbersome to use, but apart from that there are very few significant problems. The integrated suite includes the same five modules as Camsoft, but they are supplied on four sides of disc, making it effectively impossible for the software to be run as an integrated system on an unexpanded 8256.

PLUSES • MINUSES

- □ A very comprehensive and professional package
- □ Very good audit trails.
- □ It's possible to run the sales and purchase ledgers over a different time period from the nominal.
- □ Facility for handling prepayments and accruals
- □ Able to print full management accounts.
- ※ The size of the programs means lots of disc swapping.
- ※ All normal responses need to be in upper case.

Micro Simplex — Small company's best buy
£99.95 • Micro Simplex • 0625 615375

– or, to give its full title, 'Small Business Accounts & VAT Made Simple'. It's specially designed for small businesses and uses a special system of trading weeks and quarters, and links in bank transactions etc.

PLUSES • MINUSES

- □ Uses M drive to speed operation
- □ Comprehensive, easy-to-follow manual
- □ Handles special retailer VAT schemes
- □ Easy to use menus
- □ Very good audit trails
- □ Facility to provide simple profit and loss figures
- ※ Use of accounting weeks makes it rather rigid
- ※ Only suitable for simple cash trades

Camsoft PSIL — Good for small company
£149.95 • Cambrian Software • 0766 831878

Consists of five integrated packages: Sales, purchase and nominal ledgers, invoicing and stock control. In terms of sophistication it falls somewhere between the Sagesoft package and the larger systems from MAP and Compact. But it's easier to run than the larger packages since all the software can be squeezed into the M drive. Good package for a small company.

PLUSES • MINUSES

- □ Comes installed for PCWs and can be run efficiently by 8256 or 8512.
- □ No need for pre-printed stationery.
- □ Excellent sort and search facilities.
- □ Invoices shown on screen as you create them.
- ※ Constant need to input full five-digit account codes.
- ※ No final accounts reports available on nominal ledger.
- ※ No facility to run the ledgers in different accounting periods.

Cash Book
£39.95 • Micro Plus • 0424 224355

Nominal headings, ie. you set up the categories you want to use and refer to them by number afterwards. Extensive use of transaction numbers make finding a piece of information difficult. Effective enough, but with some quirks.

PLUSES • MINUSES

- □ Menu driven
- □ Simple to use
- □ Can correct errors after entry
- ※ Limited referencing system makes entries hard to find
- ※ You can only make entries for the current date

Anagram Accounts
£86.25 • Anagram Systems • 0403 59551

Sophisticated package for users familiar with accounts. Small details like discounts and VAT are handled well but no permanent records are kept on disc and you have to use the extensive report printing options.

PLUSES • MINUSES

- □ Invoice printing is easy.
- □ Handles customer details efficiently
- ※ Key presses are rather obscure
- ※ Best to have some idea of accounts before using it

Compact Accounts — Versatile
£199.99 • Compact Software Ltd • 0306 887373

Another very large integrated package supplied on several discs and consisting of sales, purchase and nominal ledger together with invoicing. The package is available on much larger micros, and since the format in which data is produced is the same as on PCWs, the system is particularly suitable for users planning to upgrade their hardware at a later date. The programs' anti-piracy system means you have to use the original discs in the A drive, so the system is not very suitable for use on an 8256.

PLUSES • MINUSES

- □ Audit trails are an auditor's dream.
- □ Includes a facility to allow data to be used in WordStar, Multiplan or SuperCalc 2.
- □ Superb prepayment facility.
- □ Can run a number of companies separately.
- □ Easily transported to bigger computers.
- ※ Lots of disc swapping necessary.
- ※ Can be slow to use — it runs in Mallard Basic.
- ※ A couple of mildly annoying quirks in cash allocation routine and account code system.

Cavalier Install
£99.95 • Load & Run • 0322 72116/73128

A comprehensive integrated package. Comprises 'Intact' accounts and 'Instock' stock control, available separately for £59.95 each. Well designed, easy to run and powerful enough for most businesses.

PLUSES • MINUSES

- □ Other packages (eg. 'Teleadd' address book) can be added too
- □ Comprehensive range of features when used as a package.
- □ Sophisticated features in Instock section covering pricing and order suggestion.
- □ Flexible accounts, traps most mistakes and gives useful report summaries
- □ Interesting forward planning facility in stock control
- ※ Manual gives you a confusing number of options

Sagesoft Accounts
£99.00 • Sagesoft • 091-284 7077

An integrated accounts package consisting of purchase, sales and nominal ledgers. For another £50 you can buy Accounts Plus which also has invoicing and stock control. The package is aimed at small companies with the emphasis on ease of setting up. But there are a number of limitations — in particular the package cannot cope too easily with rapidly increasing numbers of customers and suppliers.

PLUSES • MINUSES

- □ Clean, tidy and logical screen layouts and menus
- □ Easy to set up and use with excellent documentation
- □ Good audit trails and VAT reports
- □ Can produce formatted trial balances
- ※ Restrictive account numbering system
- ※ Small batch sizes
- ※ Only single Nominal ledger and VAT analysis per item
- ※ Does not cater for settlement discounts
- ※ Won't print remittance advice slips

Sandpiper Accounts
£149.95 • Sandpiper Software • 0978 358832

This package is described as a 'simplified' integrated system and is aimed at inexperienced users. But although it offers a large number of features at a competitive price, it suffers from some serious drawbacks. In particular the limited audit and enquiry facilities may well make it unsuitable for many businesses.

PLUSES • MINUSES

- □ Comes ready installed to run from the M drive.
- □ Price includes three months' telephone support.
- ※ Very poor audit trails
- ※ Lack of detail on nominal ledger.
- ※ Analysis of sales and purchases very slow.
- ※ It would be easy to wipe off transactions by accident mid month.
- ※ The documentation is confusing.
- ※ You have to telephone to find out your pass number before you can use the package

Simple Accounts
£34.95 • Cornix Software Ltd • 0462 682989

As simple to set up and run as the name implies although it is limited in its aims and can be slow. Does the basics for a small firm in sales and purchase ledgers quite efficiently.

PLUSES • MINUSES

- □ Needs little accounting experience to work effectively.
- □ Flexible enough to suit most small company set-ups.
- ※ Runs in Basic and can be slow.
- ※ Limited number of entries in each period so choose the accounting period carefully.
- ※ Limited in its aims.

MAP Payroll — Good value!
£49.00 • MAP Systems • 061-624 5662

PLUSES • MINUSES

- □ Can amend and re-run at any stage (even after printing payslips)
- □ Cash analysis is broken down into departments
- □ System prevents re-use or amendment of leavers
- □ Facility to hold up to 40 standard hourly and weekly wage rates
- ※ No SSP calculation facility (although there is provision to record amounts paid)
- ※ Programs necessitate a lot of disc swapping
- ※ Automatic amendment of tax code changes does not print a record of alterations made

Sagesoft Popular Payroll
£69.95 • Sagesoft • 091-284 7077

PLUSES • MINUSES

- □ Any or all employees payroll can be rerun at any stage up to final update
- □ Full pay history available for all employees and leavers
- □ Calculates average pay for holidays etc
- □ Very easy to install
- ※ Limited number of additions/deductions
- ※ Doesn't print a list of cheques
- ※ No analysis of additions/deductions

Sandpiper Payroll
£79.95 • Sandpiper Software • 0978 355333

PLUSES • MINUSES

- □ Uses M drive to speed operation.
- □ Comprehensive SSP records.
- □ Cash analysis broken down into departments.
- □ Gives on screen review of payslips and allows amendments after payslips have been printed.
- ※ Can only process one department at a time.
- ※ Complicated installation and software protection procedures.
- ※ Slow cursor movement and unhelpful positioning while making entries.
- ※ Documentation not very thorough.

Camsoft Payroll — Simple and flexible
£49.95 • Cambrian Software • 0766 831878

PLUSES • MINUSES

- □ Full payslip displayed on screen and any item can be amended immediately – when accepted the payslip is printed at once with an optional file copy
- □ Facility for freehand narrative on any payslip
- □ Uses M drive for programs to speed operation
- □ Built in on-screen help facility
- □ Search/sort routine for output to screen, printer or disc
- □ Uses alphanumeric employee codes
- ※ Screen menus a bit untidy and sometimes difficult to follow
- ※ No listing of cheques

Compact Payroll
£99.95 • Compact Software ltd • 0306 887373

PLUSES • MINUSES

- □ Supplied with test data
- □ Facility to change employees tax codes following budget
- □ Can run payroll for several companies
- □ Program available for PC compatibles – data is transportable
- ※ Must be run from the master discs
- ※ Programs spread over two side of a disc and run in BASIC
- ※ Needs use of data input form and calculation of a check digit for each employee processed
- ※ Once payslips are printed nothing can be changed
- ※ Most expensive payroll program

UTILITIES

Mouse and Desktop
Useful!

£79.95 • Advanced Memory Systems • 0925 413501

A whole new way of using your PCW – banish CP/M for ever. For your money you get a mouse and software which emulates the GEM Desktop environment found on PCs. All commands are given by pointing to icons on the screen, not typing at the keyboard. You also get calculator/calendar (etc) utilities thrown in.

PLUSES • MINUSES

- □ A genuinely useful desktop organiser, with well thought out utilities.
- □ Well presented and easy to use
- □ Makes CP/M commands easy
- □ The mouse can be used with a variety of other software
- ※ Takes up a lot of space in the M drive
- ※ Calculator and other utilities not available while running other programs
- ※ Can be irritating if you are proficient with CP/M and want to use it.

BrainStorm
£49.95 • Caxton Software • 01-379 6502

An "ideas processor", BrainStorm is a computerised doodling pad. You can jot phrases down randomly, then organise them into a hierarchical plan, then expand each phrase into a finished idea, and finally print them out as a coherent document. If you find it easier to work at a keyboard than with a pencil and paper, this will really help you think.

PLUSES • MINUSES

- □ No limit to the number of sub-levels of plan you can have
- □ You can output the rough text, for a wordprocessor to polish
- □ Good documentation, and some neat ideas for applications
- □ Provides a unique service, which should be useful to you
- ※ Needs better graphics to let you browse the structure easily
- ※ Command keystrokes are unnatural, eg cursors don't work
- ※ As a word processor, it is very primitive
- ※ A notepad and a pencil would cost you £1 or less

Pertmaster
£69.00 • Abtex Software/NewStar • 0277 220573

Pertmaster is a project planning aid. You specify the events, sequencing and durations of the component tasks of a project, and Pertmaster will analyse the job by Critical Path Analysis. It can detect errors in the plan, produce reports and crude graphical summaries.

PLUSES • MINUSES

- □ PERT charts and Critical Path Analysis are established planning methods
- □ Up to 500 activities may be considered at once
- □ Plans can be altered to see "what if ..." results
- ※ The PCW isn't really powerful enough to do it justice; it certainly needs a PCW8512
- ※ Screen graphics are very weak; you can't get a graphical overview of the whole network
- ※ No simple default settings for a rough-and-ready plan

PlanIt
£24.95 • Database Software • 061-456 8383

Three programs to help you organise yourself. It looks after addresses, expenses, sorts out your personal finances and notes down all important diary dates. It also acts as an interest calculator and a calendar program.

PLUSES • MINUSES

- □ A lot of program for the money.
- □ Well designed screen layout and operating system.
- □ Decent manual.
- ※ Methodical approach needed to use it properly.
- ※ Card Index could be more flexible.

Astrocalc
£15.50 • Astrocalc • 0442 51809

A starter program for astrologers. More sophisticated programs to help the interpretation of the charts are also available.

PLUSES • MINUSES

- □ Takes the sweat out of creating natal charts
- □ Genuine astrological tool – not just a fake horoscope program
- ※ No graphical representation of the charts
- ※ Tutorial section rather pointless

Money Manager Plus
Best buy!

£39.95 • Connect Systems Ltd • 01-743 9792

The souped-up version of the personal accounts package Money Manager which would serve a small business quite nicely. It acts as a daily diary, over 12 months, recording all incomings and outgoings between up to 9 accounts. Similar transactions can be grouped together, and simple reports can be printed. Money Manager also available for £24.95.

- □ Simple to use, requiring no accounts or computer knowledge
- □ Standing orders can be defined for each month
- □ Detailed and summary statements can be printed out
- □ VAT reports can be separated out
- □ Can present results as bar charts
- ※ No audit trail integrity
- ※ The statement format is not very flexible
- ※ Transfers between accounts are not cross-referenced

Personal Tax Planner
Money saver!

£24.95 • Digita International • 03954 5059

Simple program which asks you all the questions relevant to your year's tax affairs, and prepares your tax return claim (or bill!). Useful to find out whether married couples would be better assessed separately or not. Annual updates available.

PLUSES • MINUSES

- □ Simple to use
- □ Needs a minimum knowledge of the tax law
- □ Forces you to keep your tax details in one place
- ※ Limited application – you might only use once a year
- ※ Can't handle unusual cases
- ※ Program updates (for a new allowance level) cost £10

Point of Sale
£194.35 • Avon Business Computers • 0761 70543

For 8512s only. This program turns your PCW into a till-cum-stock controller – you enter each sale as it happens and at the end of the day your PCW gives you sales reports, stock details and suggested purchase orders.

PLUSES • MINUSES

- □ Good method of stock control for small businesses
- □ Ties up with many double entry accounts packages
- ※ No on screen prompts for accounts numbers
- ※ No out of stock warning during sales

Home Finance Program
£24.95 • Datavise • 039 6778 215

You can keep track of up to 15 accounts with this package and even allocate budgets and set up audit trails. If you just want an accounts package there are better, but as an aid for planning budgets and spending it's OK.

- □ Idiot-proof
- □ Good audit trail
- ※ Manual lacks concrete examples and is a bit condescending
- ※ Delays while information is saved to disc

Write Hand Man
£29.95 • Hisoft • 0525 718181

This utility program sits in the background whatever you are doing – for example, if you are word processing, press the key and up pops a calculator, a notepad, or a diary. Designed to eliminate paper, but the more advanced functions (notepad) are so cumbersome they fail to be at all useful. Better to buy a £4.95 Casio calculator and a pencil & paper.

PLUSES • MINUSES

- □ Results from calculator can be 'pasted' directly into files
- □ You can re-define the PCW keys to produce strings
- ※ Manual is technical and incomprehensible
- ※ Notepad functions are slow and cumbersome to use
- ※ Takes up a lot of disc space and CP/M workspace
- ※ Costs much more than an HB pencil with notepad

Disc Mate
£24.99 • Siren Software • 061 848 9233

Disc Mate is a set of CP/M utility programs which bring complex disc recovery operations within the scope of CP/M novices. Facilities include recovering erased files and making files "read only" (i.e. unerasable).

PLUSES • MINUSES

- □ Simple on-screen instructions once you've got started
- □ Allows easy recovery of accidentally erased files
- □ "ZIPDISC" program speeds up disc access by 10 to 20%
- □ Friendly file copying program in case you find CP/M's PIP incomprehensible
- □ Can read both single and double density discs
- ※ The instruction sheet is very brief, so you'll need to understand CP/M basics

Universal Self-Start
£19.95 • Cornix Software • 0462 682989

A utility program which helps you make up auto-booting discs from any program. This means having a single disc which can both start the PCW up and run your program. Bear in mind that you could do all this yourself for free if you can read the appropriate parts of the CP/M manual.

PLUSES • MINUSES

- □ Foolproof system of questions leads you on
- □ Wide range of options for printer setup, eg. different paper sizes.
- ※ Not comprehensive – doesn't PIP files across to the M drive, for instance
- ※ No help with setting up the keyboard
- ※ Program takes up 14k of the startup disc – you may need two discs anyway

The Knife Plus
Vital tool

£19.95 • Hisoft • 0525 718181

An essential tool for retrieving data from corrupted discs. Knife Plus will copy all uncorrupted sectors on to a fresh disc which you can then patch up without risking the original.

PLUSES • MINUSES

- □ Copies *all* uncorrupted data from damaged disc
- □ If boot sector damaged, will copy good boot sector onto disc.
- ※ Requires some knowledge of basic disc structure
- ※ Manual not written for beginners

SuperType II
Useful and fun!

£24.95 • Digita International • 03954 5059

A program for users of LocoScript (1 or 2) and CP/M programs, which modifies the fonts (ie. the look of the characters) used by the PCW printer. SuperType has 4 'business' fonts and 4 'novelty' fonts, like Olde English. It works by directly altering the .EMS files for LocoScript or CP/M, so you only need run it once – after that, the new chosen font is automatically available.

PLUSES • MINUSES

- □ Once installed, you can totally forget it's there
- □ Genuinely useful range of fonts available
- □ Works with LocoScript as well as CP/M
- □ All LocoScript's print size and style options still work with SuperType
- □ Doesn't take up any extra disc space
- ※ You can't mix different fonts in the same document
- ※ You have to have different work discs for each font you want to use

Tas-Sign
£29.95 • Tasman Software • 0525 718181

Takes time to print out but you can print signs of up to five lines of text up to seven inches high with up to 32 characters in each. Four fonts, eight hatching patterns, and you can print lengthways on continuous paper for long signs.

PLUSES • MINUSES

- □ Wide range of fonts and shadings
- □ Long signs will print out in 'landscape' (sideways) format
- ※ Long signs take time
- ※ Some symbols (yen signs etc) won't print out on PCW

Signwriter
£49.95 • Wight Scientific • 01-858 2699

Prints out any string of text as a sign in a standard Roman font. Only limit on size of characters is the size of the paper and the quality is very good. Long messages can be printed lengthways on continuous paper. Extra fonts are available for £5.

PLUSES • MINUSES

- □ Good quality print – difficult to believe it's done on a dot matrix printer
- □ No limit on size of characters
- □ Text can be boxed and underlined
- ※ Signs take several minutes to print out
- ※ You have to pay for extra fonts

DESKTOP PUBLISHING

Desktop publishing – or DTP – packages enable you to produce your own newsletters using your PCW. They come with a variety of fonts of a range of sizes for headlines and body text and a selection of 'clip art' graphics you can include in your creations (pictures of various objects and fancy heading boxes such as 'For Sale' or 'Stop Press').

You read in your articles prepared by a wordprocessor into text boxes, put your graphics in graphics boxes, make up your headlines, and then lay out your publication on the PCW by juggling the position of your boxes on each page. Finally you can get a copy of each page on your printer (though not if it's a daisywheel, of course) and photocopy the results.

Your graphics can be taken either from the package itself or from TV or real life via a video digitiser.

The end results won't be of sufficient quality to compete with the professionals, but for club and company newsletters, leaflets, posters and small-scale publications, DTP packages could be invaluable.

The Desktop Publisher *Amazing value!*

£29.95 • Database Software • 061-480 0171

A tremendous value for money package. Graphics and text boxes can be easily moved around and page layout is clear. Good range of fonts and graphics too – all at half the price of its rivals! Mouse optional for £50 more.

PLUSES • MINUSES

- □ Layout of page well displayed
- □ Boxes easy to manipulate
- □ Works with three mice, but fine with keyboard alone
- □ Half the price of other packages
- □ Good range of fonts and graphics, and you can design your own fonts using the font editor
- ※ Text boxes always expand if incoming text is too long – you can't fix their size beforehand
- ※ Headlines can look a bit jagged

Newsdesk International

£49.95 • The Electric Studio • 0462 675666

Versatile package with a very wide range of graphics facilities and high quality headline text. Page make-up is flexible, though the program can be a bit cumbersome and slow, especially in text handling. Includes all the facilites of Electric Studio's 'Art' graphics package.

PLUSES • MINUSES

- □ Good control over the elements on the page
- □ Powerful graphics facilities
- □ Good quality print in headlines and large fonts
- □ Can use font editor to create your own high quality fonts
- ※ Text handling slow and cumbersome
- ※ Not easy to undo mistakes
- ※ Menus can be confusing

Fleet Street Editor Plus

£69.95 • Mirrorsoft • 01-377 4645

A versatile and powerful package. You can create template-like 'page dummies' if your publication has several pages of the same format and handling of text, setting of margins and size of text boxes etc, is well controlled. Tends to stop working abruptly for no reason though and uses memory space extravagantly.

PLUSES • MINUSES

- □ Versatile integrated package
- □ Text handling sophisticated and controlled
- □ Can edit text from keyboard
- ※ Crashes occasionally
- ※ Odd use of memory in text editor

Fleet Street Font Editor

£19.95 • Mlrrorsoft • 01-377 4645

An add-on to Fleet Street Editor plus. You can design your own fonts or symbols and there are five more fonts you can use in FSE+. There's also a selection of useful extra graphics.

PLUSES • MINUSES

- □ Designing your own fonts is fun and easy
- □ Extra graphics will be useful
- ※ You're paying twenty quid for something the other DTP programs have built-in for free
- ※ Maximum of five fonts in FSE mean when adding a new font to your FSE disc one of the others has to go
- ※ Not much for your money

NEXT MONTH

The guide continues next month with the categories of DATABASES, COMMUNICATIONS, EDUCATIONAL PACKAGES and PROGRAMMING. After that it's SPREADSHEETS, GRAPHICS and GAMES and the month after *that* it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available from The Old Barn at Somerton at £1.75 each.

Meanwhile, if you are aware of any significant errors or ommissions in the File as published, please let us know. We want to maintain it as THE authoritative guide to PCW software.

TWO GREAT OFFERS FOR AMSTRAD PCW OWNERS

BULLDOG PRINTER STAND

Make printing easier and free valuable desk space with this superb Printer Stand. The Bulldog Stand is custom designed specifically for your Amstrad 8256/8512 printer. It will provide space for 500 sheets of continuous paper or space for keyboard storage. Successfully in use throughout the world, the renowned Bulldog is manufactured in the UK, of 6mm steel finished in pale grey to match your printer/computer.
List price is £14.95.
Our special offer price only £9.95 inc. VAT, plus £1.00 P.P. & Ins.

'HI-TECH' ALUMINIUM STYLE CARRYING CASE.

Designed specifically for your Amstrad 8256/8512. This Hi-Tech case offers protection, easy safe transportation and security. Manufactured in West Germany this quality case features, nickle/chrome locks, hinges and corner pieces, padded divider system, heavy duty carry handle, hinged lid with 'lift off' facility. 12 months gte. **Save £20.00 now.** List Price £99.95. **Our price only £79.95 inc. VAT.** Securicor delivery £3.00.

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(Inc free *Easy ProSpell/Listings* disc. Please allow 2-6 weeks for arrival of your first issue.)
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❑ **LOCOMAIL** £19.95
❑ **FIRST CALC** £24.95

❑ **THE PAWN** £19.95
❑ **HEAD OVER HEELS** £11.95
❑ **THINGI** (left of screen) £5.95
❑ **THINGI** (right of screen) £5.95

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COMPUTER SCRABBLE

Only £12.95 – save £7!!

■ Anyone who enjoys playing with words will find it hard to resist this superb version of the classic word-game.

■ Scrabble on the PCW, supplied by **Leisure Genius**, presents you with a unique challenge: Can you beat your word processor at word processing?

■ Be warned. The program, backed up by a huge built-in dictionary, plays a very mean game. It knows all the rules and will use every trick in the book to build up mind-boggling scores.

■ The full Scrabble board is displayed on screen with all the squares in their usual places. More than one player can take on the computer simultaneously, and you can set the program's level from super-fast to super-smart. There are other options, including the facility to see the computer trying out various words.

■ The program also checks your words against its dictionary and will query any it doesn't recognise – but yes, you can over-rule it. Much friendlier than a human opponent in that regard.

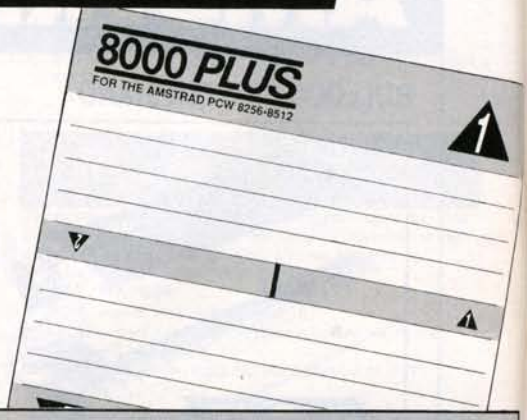
■ It's just as well, because you'll need all the help you can get if you're to beat the machine.

■ A fantastic program at an amazing bargain price.

8000 PLUS DISC LABELS

Packet of 20 for £1

(when ordered with another product)



One of the most annoying things about 3" discs is that they aren't normally supplied with spare labels. That's why we designed our own (and gave away over 300,000 with the June issue of 8000 Plus).

If you want some spares, we have them in packets of 20, four different colours, five of each colour. They're £1 a packet, provided you order something else at the same time. (You could simply buy an extra packet!)

A neat way of keeping your discs well organised.

BARGAIN BASEMENT

This section is down to just four items! Move fast or the chance will be gone. These prices hold only while we still have the items in stock.

SUPERTYPE (Fonts for LocoScript 1.2)
Only £12.95 (£7 off RRP!)

CARDBOX (database)
Only £29.95 (£30 off RRP!)

ZORK II (Infocom adventure)
Only £14.95 (£10 off RRP!)

ZORK III (Infocom adventure)
Only £14.95 (£10 off RRP!)

Your chance to buy the software that comes with the new PCW 9512!

SPECIAL OFFERS 8000 PLUS

THE 3 BIG UPGRADES

- **LocoMail**
- **LocoSpell**
- **LocoScript 2**

– only £19.95 each!

Here's our best offer yet – a chance to buy the three main LocoScript upgrades, two of them at an incredible 50% discount.

Much has already been written about **LocoScript 2**. It offers a number of powerful advantages over earlier versions, especially by making the handling of long documents much, much faster. Buy it from us and we'll throw in a packet of our famed disk labels for good measure.

Meanwhile **LocoMail** and **LocoSpell**, which normally cost £39.95 each, can add immense extra power to your machine, by allowing you to carry out mass mailings with each letter automatically personalised and through fast spell-checking of your documents (LocoSpell comes with two separate dictionaries, one of 17,000 words for super-fast checking, and one of 78,000 for super-thorough checking). By knocking £20 off the normal price, we're making these titles affordable by almost everyone.

The versions of LocoMail and LocoSpell we are selling are unique in being compatible with the latest LocoScript 2, as well as the earlier 1.2. So whichever version you have or plan to get, you needn't worry about compatibility.*

The fact that all three programs come bundled with the new PCW 9512 will make a lot of current owners green with envy, but at least our offer allows you to upgrade fairly painlessly.

We don't think you'll find a better way of exploiting the full power of your PCW.

* LocoSpell is incompatible with early versions of LocoScript 2 (2.00 and 2.01) but our pack includes details allowing owners of these versions to obtain a free upgrade from Locomotive.

*LocoMail +LocoSpell at **half price**!!!*

These versions are compatible with LocoScript 1.2 AND the current LocoScript 2.

FREE

A packet of 20 colour-coded 8000 Plus disk labels for each package ordered!

HOW TO ORDER

Use the form on page 80. Or dial our credit card hotline.

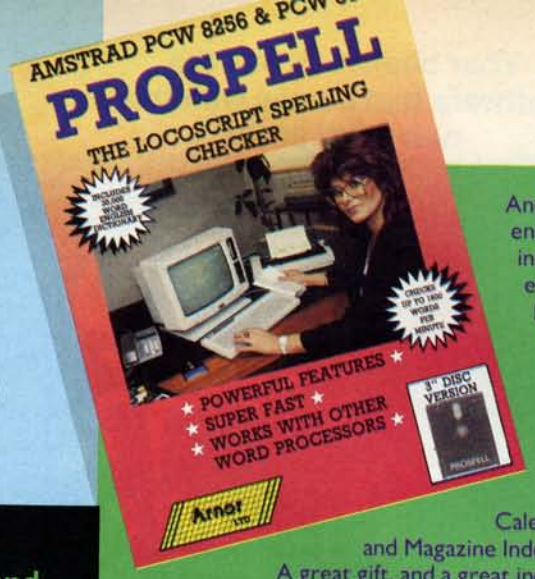
FIRST CALC

Only £24.95 – save £5

Want to get into spreadsheets? Then try Minerva Systems' *First Calc*. It's an easy-to-get-into program which will, nevertheless, completely satisfy many spreadsheet requirements.

If you have financial planning needs, it could be the most cost effective £25 you'll ever spend.

FREE SPELLING CHECKER!!



Take out a 12-month subscription to 8000 Plus and you'll get a FREE disk containing *Pocket ProSpell* and a dozen other programs!

And as if that's not enough, we're also including just about every program listing ever printed in 8000 Plus, ranging from issue 1's *WordCounter* through to our much-liked Calendar, Biorythms and Magazine Indexing programs.

A great gift, and a great incentive for finally getting round to subscribing to your favourite magazine. Go for it!

Subscribe already?

Don't panic, you can still get hold of this Easy Prospell disc. We will sell it on its own to *existing subscribers only* for just £6.95. Alternatively you can obtain it FREE by extending your subscription for another 12 months – just tick the relevant option on the form.

It's time, we decided, for another big subscription drive. And this time we've pulled out all the stops. The free gift you'll get when you take out a subscription to 8000 Plus is an absolute scorcher!

Our special 8000 Plus disk includes a new version of Arnor's superb spelling checker *ProSpell*. Some of the frills of the full commercial version (RRP £29.95) have been removed, but the heart of the program is all there. Our version comes complete with a dictionary of over 30,000 words which will check your documents at lightning speed.

Words (or typos) it doesn't recognise are printed on screen – you can then correct them, ignore them, or add them to the dictionary.

The program is compatible both with LocoScript files and those from word-processors such as *NewWord* and *WordStar*.

How subscribing can save you MORE than 5p in 12 months!!

Although the price of 8000 Plus has recently gone up 25p to £1.50, we're pegging the subscription price at £17.95. That's a full five (yes, FIVE) pence cheaper than buying the next 12 issues in the newsagents. But we think there are even better reasons for you to subscribe.

- You GUARANTEE yourself a monthly copy. Missing an issue could mean missing the product or tip your PCW is pining for.
- You AVOID those frustrating newsagent searches. Her Majesty's servants deliver to your door.
- You become entitled to LOWER PRICES on some reader offers.
- You pick up a STUNNING free gift, arguably worth around £20.
- You SUPPORT this magazine in the most effective possible way.

AMAZING SUBSCRIPTION OFFER

HEAD OVER HEELS

Only £11.95 – save £3!!

Remember *Batman*, the incredibly-animated, bamboozling and totally addictive entertainment from Ocean Software? This one's from the same programmer, and it's even better.

For a start the number of rooms to explore has been *doubled* to an incredible 300. And these are rooms depicted in high-resolution stunning 3D, (most of them, by the by, being death-traps!).

You start off controlling *two* separate characters Head and Heels, each of which has different powers, enabling them to solve some of the maddeningly-clever puzzles which hamper your progress at every stage. Eventually you can link the two characters, Head over Heels, and advance your power to new heights.

If it's high-quality, animated, brain-stretching entertainment you're after, you won't find better.

SPECIAL OFFERS 8000 PLUS

8000 PLUS DUST COVERS

Just £11.95 for the complete set

Ever wondered why you see so many computers dust covers advertised? It's because computers don't like dust. Over a period of time it can make them very ill indeed: keyboards stick, disk drives become less reliable, printers smudge.

A set of dust-covers for the three parts of your system provides a neat solution. And there's the added bonus of smartening up the hardware's appearance when it's not in use.

The specially-commissioned 8000 Plus covers are made from high-quality anti-static nylon fabric. The covers themselves are a soft grey colour with those for the monitor and printer piped in red. The keyboard cover bears the 8000 Plus logo in red.

It adds up to a good argument for a cover up.

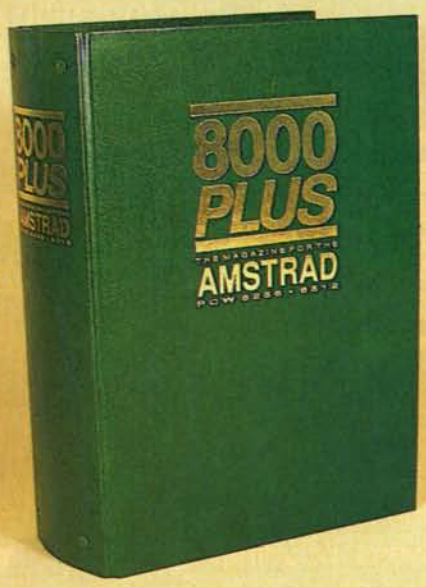
BINDERS

Just £4.95

Here's the cure for a desk cluttered with back issues of 8000 Plus: the official 8000 Plus binder.

It's a smart, sturdy piece of kit with our logo stamped proudly on the spine. More to the point, it holds 12 copies of your favourite magazine and is guaranteed to keep them in fine condition for years to come.

Loyal readers, roll up.



HOW TO ORDER

Use the form on page 80. Or dial our credit card hotline.

SPECIAL OFFERS

WANT A THINGI?

Yours for just £5.95 – save £2!

What's white, dangles papers next to your computer screen, and costs two pounds less than in the shops? Yes, a Thingi bought through 8000 Plus.

This remarkable computer accessory – an idea so simple it's ingenious – could dramatically ease your word-processing hours. All it is is a cleverly shaped piece of plastic that attaches via Velcro to the top of your micro. But with a Thingi on your PCW you can have documents, letters, or program listings clipped right next to the screen in perfect reading position.

Any task involving copying off paper is thereby made much easier and faster. In fact the clip supplied is sturdy enough to support an issue of 8000 Plus open, say, at the TipOffs section.

The Thingi can be positioned either to the left or right of the screen and can easily be removed and replaced if necessary.

A really sensible, cost-effective add-on for your PCW.

SPECIAL OFFERS
SPECIAL OFFERS

THE PAWN

Only £19.95 – save £5!!

This program from Rainbird Software is one of the year's outstanding releases. It's a grand adventure set in the mysterious kingdom of Kerovnia replete with ice towers, golden palaces, dangerous forests. In your battle to escape this land you encounter intriguing characters such as the laughing Buddhist monk, and must use your sharpest wits to extricate yourself from some dire situations.

Where the game excels is that it features both outstanding graphics and effective text description and interaction. The 8000 Plus reviewer awarded it five out of five across the board, so what could we do but rush out and obtain it at a discount for you our readers...? A magical purchase.

SPECIAL OFFERS

8000 PLUS

POWER PLAY PROGRAMS

Turn your PCW into a super-powerful game-playing opponent with these two fantastic programs from CDS Software.

COLOSSUS CHESS 4

Only £11.95 – save £4 on RRP!

- Probably plays the best chess of any program for the PCW.
- Huge range of options including blindfold games and many levels of play.
- Ability to take back moves, set up particular positions, solve chess problems,etc.
- Program actually thinks while waiting for you to move.
- Very clear graphic display, including automatic move timer.

COLOSSUS BRIDGE 4

Only £11.95 – save £4 on RRP!

- Play bridge without having to find three other people!
- Computer handles other three hands for both bidding and card-play.
- Bidding includes Blackwood, Stayman and Baron conventions.
- Options to deal your partnership hands of specific number of points.
- Ability to take back a play, review bidding, replay last game, or input complete set of hands.
- Program can suggest a play if required.
- Includes paperback book 'Begin Bridge' free with package.
- 8000 Plus 5/5 value rating.

HOW TO ORDER

Just turn back two pages to the order form on p80. Or use our Access/Visa hotline on 0458 74011.

POSTSCRIPT

A miscellaneous morass of missives mulled over by a mesmerised Ed.

The impact of LocoScript 2 and the impending 9512 is certainly making its mark on our postbag. Some readers voice excitement, some apprehension, but one thing is for sure – interest in the PCW hasn't been so buoyant for a long time.

We've yet to receive the first letter from a real live 9512 owner – which isn't surprising since at the time of writing the machine has only officially been on sale for four days. A challenge: the first documented proof (ie. photo) of a 9512-owning reader will receive a fabulous prize of a couple of exciting alternative typeface daisywheels for its printer.

Stake your claims, and keep on sending those comments, complaints and compliments, to *PostScript, 8000 Plus, 4 Queen Street, Bath BA1 1EJ.*

CBASIC advice

I have just read your October issue and in particular the letter from Roy Milliken of Nottingham regarding DR's CBASIC compiler and his lack of progress because of difficulty in creating the source program.

I would like to say that I too bought Digital's CBASIC compiler and although the manual (as usual) was not exactly the easiest to follow I soon found it a far easier programming tool than 'normal' BASIC. As far as creating the source programs, nothing could be simpler.

CP/M's BASIC RPED allows up to 200 lines with full text editing. If the program takes up more than 200 lines then use the magic words:

```
%INCLUDE filename
```

Your program can be split into different files eg. PROG.1; GOSUB.BAS; DATA.BAS etc. You then place the line `%INCLUDE GOSUB.BAS` in your initial program file, PROG.1. When you finally compile PROG.1 it will come across the instruction and call up the file named GOSUB.BAS and 'include' it with PROG.1.

Using this method you can soon build up a library of files carrying your most used routines to be %INCLUDEd in your new program.

Alan J. King
Eastcombe Road,
Weston-super-Mare

In for a dollar, in for a pound

Have you been conned? Did you really pay £22.95 for your copy of 'Understanding dBaseII' as stated in your article entitled 'Golden Oldies'? My copy was bought not many months ago and is priced at $22.95 and cost much less in British currency. I am also in possession of 'Advanced Techniques in dBaseII' by the same author; to my mind this is an essential companion volume which is again much cheaper than £22.95 (in Cardiff) and excellent reading.

K R Waddington
Abergavenny, Gwent

● *Well, we didn't actually pay for ours, not as such. We more sort of got it free to review. But seriously, the book you refer to and the other in the review (WordStar Tips and Traps) are American books published by Sybex which have just been published over here by Longman. Longman have evidently imported the copies rather than reprinting and have set their own UK price at £22.95, which does seem a bit steep.*

Your copy must have been bought before the UK publication date when the shop probably got their stock direct from the States and charged you at the exchange rate. Some copies of this price may be floating around still, although it is against the net book agreement and bookshops should not be selling at below the UK published price.

The PCW is dead. Long live the PCW?

Great news – the PCW9512 is out along with bundled LocoScript 2, LocoMail and LocoSpell, a better keyboard, and a Centronics printer port as standard. Left-out-in-the-cold existing PCW owners have to shell out another £175 just to rival it in terms of performance (ie. all three Loco packages and the CPS parallel/serial interface). Not counting of course the 15" carriage daisy wheel.

Having a quick browse through the manual we find that it includes details similar to the old PCW manual albeit the LocoScript description is a little more copious, also it goes into depth about LocoSpell and LocoMail (snarl, growl!); their manual even has a section on Mallard BASIC, incredible! When first hooked up, old users hadn't a clue what to do with it.

Amstrad could have at least sent existing owners LocoMail and LocoSpell, and if they were extra generous the CPS8256 parallel/serial interface.

But instead there are now a lot of downcast faces amongst PCW owners who feel snubbed – new owners getting a better software bundle.

At least we PCW owners of present have something much better: we can produce hard copy output of graphics on our printers and produce all the fancy characters from LocoScript 2.

GSX examples may be one thing to have free for PCW9512 owners but just try and get hard copy when it's hooked up to a daisywheel printer. PCW9512 owners sit out there and drool!

D Stanley
Worthing, W.Sussex

● *It's no different to any other branch of consumer products really; I don't recall Ford writing to me offering to give me a free engine upgrade when they scrapped my Fiesta in favour of a new model. What it comes down to is this: had someone said to you a year ago, "Look, you can either buy the 8512 as it stands and use it for a year, or you can wait a year and get an (arguably) better deal", what would you have done? I know what I would have done.*

The 8512 now costs £115 less than the 9512 (including VAT). LocoMail and Spell together cost £80 and, as you say, you can do graphics on the 8000 series printer. 9512 owners won't be able to keep handy directories of their discs by doing an [EXTRA]+[PTR] screen dump of their Disc Manager screen, nor can they use DTP or graphics packages.

The good news for everyone is that the software and discs are generally interchangeable between all the PCW models, so no-one is being left behind. There is no question of software being developed for the 9512 which 8000 series owners won't be able to use. And, apart from the restrictions of daisywheel printers, 9512 owners can use virtually all of the existing 8000 series software.

Model question

Could you possibly tell me are there any packages available for the PCW for running a Model Agency or Employment Agency and if not do you have any alternative suggestions? I would need to be able to select a specific

Rebuffed of Redland

Since I have recently received a letter telling me that a program I sent in to your magazine was too complicated to print (probably because it was written in Assembly Language) I thought I would send you a very simple program that can give the user hours of fun with only about 30 seconds of typing. The program is as follows:

```
10 FOR loop = 1 TO 50000
20 PRINT "You are in a
dark cave, you can see
nothing. n,s,e or w?";
30 INPUT a$
40 NEXT loop
50 PRINT "Well done! You
have finished"
```

Adam Stevens
Redland, Bristol.

● *'Tis sad to see such cynicism in one so young. Anyone who has played one of the many brilliant, compulsive, witty, addictive (as the press releases keep saying) adventure games will know how you feel. The first step is usually to say 'Turn on light', but it beats me how you are supposed to have found the switch since everything is pitch black anyway.*

requirement eg. colour of hair, and then request a search through employee records for the details of the employee(s) who has that specific requirement.

Hoping you can be of some help.

William T. Kerr
Bangor, N. Ireland.

● *There may be specialised modelling packages for sale somewhere, but a much cheaper option would be just to buy a general purpose database package. You can set it up to hold all the specific details you want and perform the searches just as you describe. A good general purpose buy is Masterfile 8000 from Campbell Systems.*

To BBC or not to BBC

I have been using BBC micros at work and now I have a PCW at home I want to know if it is possible to transfer files, mainly text from wordprocessing, from one to the other. If transfer is feasible what hardware would I need? The BBCs use 5¼" discs; is it possible to use these drives also with the PCW?

Dr. Graeme A. Reid
School of Agriculture, Edinburgh

● *You can wire up a 5¼" disc drive to a PCW as its B drive. What you then need is the software to read BBC format discs. In theory it is perfectly possible to read and write text files to BBC discs, although you'll have to make ASCII files if you want to move LocoScript documents around. Either Silicon City (061-848 8959) or Timatic (0329 236727) should be able to give help.*

The price of discs

The news that there are 750,000 PCW owners, let alone all those other Amstrad computers, makes one wonder what justifies the continuing high cost of good quality 3" discs. They can be bought for as little as £1.95, but usually retail at £2.99,£2.50 or even at £4.00 or more in the High Street. A pretty poor price compared to other discs. Is it not about time the magazines that support PCW owners investigated this abuse in the market place. Surely with so many customers we can expect the £1.00 disc. If not, why not?

Michael Guest
New Street, Mitcheldean

● *You're doing well if you can get a 3" disc for £1.95. I would have said that around £2.50 was a pretty low price unless you are bulk buying. Anyway, you've pinpointed a legitimate complaint that many PCW owners are rightly aggrieved about. There are three sizes of disc commonly available, 3" (the PCW's choice), 3½" (Atari STs, Apple Macs etc) and 5¼" (IBM PCs etc). Looking at the physical construction of each it is easy to see why the 5¼" (ones are cheap, but the 3" and 3½" discs would seem to be very comparable, and even 3½" discs cost around £1.90.*

Certainly questions like, "Why aren't your products cheaper?" don't go down too well with most manufacturers. I think in reality even ¾ of a million PCW owners don't make up a very large customer base – there are almost no 3" discs sold in the US, for example. The worldwide market for 3½" discs is far bigger than for 3" discs so unit costs are lower. If the 3½" discs still cost more than £1.00 the odds of a £1.00 3" disc seem slim. Still, we can live in hope.

Sign of the Times

I would like to join The Times Network System, an "Electronic Communications and Information Service for Education," but their 'experts' tell me there is no suitable software for the PCW.

Can the wise and all-knowing editorial staff of 8000 Plus help me in this matter? Is there within the talented and inventive readership anyone who has found a way around this apparent barrier?

Steve Tasker
Newtown, Chester

● *Experts? Hah! Well may you put it in quotes. The PCW can work perfectly well as a communications terminal. Judging by the description you sent us the Times Network is a conventional electronic mail service like Telecom Gold.*

What you need is a serial interface unit for your PCW (Amstrad CPS 8256, around £60), a modem to connect into the phone network (from £100 upwards) and some software to drive it all. A good comms program is PMS Dialup (PMS are on 021-643 7688), cost £89.95.

All you have to do then is find out what telephone number you have to dial and get an account set up for yourself on their system.

Protext phrases

My main use for the PCW is word-processing – the copious administrative paper work that modern education demands; preparing notes and teaching-packs for students; playwriting. However, I do experiment with other uses, currently DTP in an effort to produce even more stimulating teaching material. This letter has been written using Protext. I particularly like the text-swapping facility (at this moment, I am taking a rest from scene four of a new play). In this connection, are there any Protext users out there who have discovered how to incorporate print commands into a phrase? The Protext manual I find considerably more obscure than the LocoScript one.

Roland Metcalf
Whalley Range, Manchester

● *Virtually any series of keystrokes you can think of can be incorporated into a Protext phrase or EXEC file. Since printer control codes are typed as [ALT]-X followed by the letter from A to Z you need to know how to get [ALT]-X into a phrase. The answer is in Appendix 6 of the manual – use `↑24↑`. (^ is typed by [EXTRA]-U.) For example,*

```
key i ↑24↑i
```

will set you up so that [EXTRA]-i will insert the italic code.

BASIC manuals

I purchased my 8256 seven weeks ago. I needed a computer that would run BASIC programs, had a disc drive and a printer, and was a reasonable price. The 8256 seemed a good choice, with the bonus of a word processor thrown in.

The only problem is that neither the retailers (Dixons) nor Amstrad seem to be able to supply me with the "Guide to Mallard BASIC". There is no way that I would have parted with £450 just for a word processor (I don't need one particularly), so at the moment I am far from being a satisfied customer.

Question time

I am very impressed with LocoScript. I find the ability to use other European alphabets, and now Cyrillic and Greek, particularly useful. The main improvement I would like, would be to get higher quality printed output.

This does not seem so easy. I have seen the announcement of the PCW 9000 series but this does not meet my needs because daisywheel printers are unsuitable for the extended character set LocoScript offers. I would also like to continue using the variety of pitches and styles currently available to me. The alternative printer drivers offered with LocoScript 2.0 do not support the extra characters either.

What I need is a driver for a 24 pin matrix printer or maybe a laser printer that will support all the characters, pitches and styles of my current printer and exploit the full resolution of the output device.

My first question is, can I buy such a driver off the shelf? If the answer is "no", my second question is, what do I need know to write such a driver for myself? Is there any interfacing documentation available? Do any printers have special features that would make the task easier? Also, the new LocoScript manual doesn't list the character codes used for each character. Does

I would suggest to readers in the same situation that they should not part with their money until they actually set eyes on a copy of the BASIC Guide – don't fall for the "We'll get you one by next week" routine like I did!

Does 8000 Plus have any influence with Amstrad? If so, perhaps you could suggest to them that they pull their fingers out and get some more BASIC Guides printed pretty quick.

W.F. Deeley
Moulton, Northampton

● *The BASIC manual was recently rewritten and reprinted as a result of the 9512 launch, so it's probably worth hanging on for the new version.*

Sorting out SORT

As one who has bought your publication since October 1986 may I say how much I enjoy reading it. It has no equal for the PCW owner.

Shell-Metzner Sort (September 1987 p.56): List to be sorted has been written in LocoScript and converted to ASCII by f7 option. Sorting program has been loaded. Disc changed to that with list to be sorted. Program run. Program gives 'Index completed' – but how does one get the darned sorted list back on to the screen or printer????

Kenneth W. Ross
Forres, Moray

● *So you think starting off with flattery will get you an answer to your questions? Right enough.*

The sorted index is held as another ASCII file under the name you typed when the program asked you where to send the sorted output (suppose you chose INDEX.OUT for argument's sake). You can either display it in CP/M, or get it back into a LocoScript document.

(i) Get back from BASIC to the A> prompt (by typing `SYSTEM`) and then just type `TYPE INDEX.OUT` and it will run past you on the screen (of course, use whatever name you chose rather than INDEX.OUT). To use the printer instead, first do an [ALT]-P (hold down [ALT] and press P at the same time) and then do the `TYPE INDEX.OUT`. ([ALT]-P echoes everything that appears on the screen to the printer).

(ii) Alternatively you can get the result back into LocoScript by using the 'Insert Text' command. Although if you try to edit INDEX.OUT directly in LocoScript it will say 'Not a LocoScript document', you can happily include it as you edit another document with Insert Text.

More on Morse

I have an answer for you!!!

Regarding your quest for an application for your Morse Code generator listing (September issue): a practical use for the training of budding radio amateurs... at least it can if you alter it slightly. The spacing of Morse should be as follows.

1. A dash is equal to 3 dots
2. The space between the signals which form the same letter is equal to 1 dot
3. The space between 2 letters is equal to 3 dots
4. The space between 2 words is equal to 7 dots.

The speed can be altered by modifying line 160, (not the length of time between words). The following lines should replace the correspondingly numbered lines in the listing as printed originally:

```
10 bell$=CHR$(7):dot$=bell$+
"."":dash$=bell$+bell$+bell$+
"-"
80 IF index%=32 THEN PRINT
"/";:count%=count%+1:FOR j=1
TO 50:NEXT:GOTO 180
160 count%=count%+1:power%=
power%*2:FOR j=1 TO 25:NEXT
```

To pass the amateur radio exam a speed of 12 words per minute is required, and yes even with computers it is still used. I am to be found on the airwaves most evenings when not bashing away at the PCW. (Skeds welcome).

If there are other amateurs out there with programs for the PCW I would be very interested.

As they say in the radio world, My best 73's es gud dx.

M. J. Pratt
Reigate, Surrey

● *I've got no idea what 73's are, let alone whether I should be complimented or insulted by having them es gud dxed to me. Still, thanks for the tip.*

Defender of the Loco

I would disagree with Warren S. Armstrong-Han in his criticism of LocoScript. I find it quite easy to use as a command driven word processor, by using the [+] and [-] keys. LocoScript has the added advantage of offering a menu automatically if I 'freeze' and forget what code to type. It knocks spots off the 'Q-office' work processor I have to put up with at work, that is painfully slow and desperately obstinate compared with Locoscript.

Richard Hood
Chessington, Surrey

A sense of perspictive

I congratulate you on your perspicacity in printing the article on 'disc doctoring' in the very month in which I suffered my first corrupted disc in more than eight months of working.

My congratulations must go also to HiSoft for their speedy response to my telephoned order as well as the quality of the Knife Plus program. It was up and running in no time and I was able to recover all the files on the recalcitrant disc, to my great relief.

H.F.J. Callan MBE.
Esher, Surrey

● *As the old saying goes, genius is 10% inspiration and 90% perspication.*

PCW training courses

Being responsible for a small professional office with only a total staff of 4 I do not find that I have the time (or even the inclination) to spend hours puzzling through manuals, even as well written and presented as that for LocoScript 2. Yet I cannot find advertised any person or organisation prepared to give on-the-spot detailed consultancy advice on operating and using a PCW using Loco 2 for business, even though we are quite willing to pay any reasonable rate for instruction and advice in business hours.

There are many organisations running their own training courses in their own premises but none exclusively in LocoScript 2. Possibly this is because the assumption is that most users find it fun to work out the latest software and decide how it satisfies their own needs. I do not find it fun; I merely find it frustrating.

Another thing is that although I read that many thousands of PCW machines have been sold for business use there still seems to be no employment agency in the South East which can provide staff already trained in LocoScript (whether they are permanent or temporary). Surely there must be a market here for somebody to expand and might this not be something you would like to comment upon in your column.

Hugh G W Wilson
Carmelite Street, London

● *I think you've said it all really. It takes a lot of manpower and organisation to set up a national network of instructors who will go out to businesses anywhere in the country*

anyone have a list of them?

Alternatively, would I be better off switching to a PC and using one of the word processors that supports European characters and accents?

I have got a standard Amstrad PCW8256 with an Amstrad Serial/Parallel interface fitted. I am thinking of getting LocoSpell, LocoMail, a modem and some communications software, a better printer, an AMX mouse and Desktop Publisher and a Hard Disk.

Now for the questions:

1) Will all this work together? Where does everything plug in?

2) Does the hard disk automatically get recognised by CP/M and LocoScript etc as soon as I plug it in? If not, what? Do all hard disks work the same way?

3) Can I make the hard disk the system or boot-up disk? Any snags?

4) Can LocoScript and Desktop Publisher and ordinary CP/M files all live on the hard disk together?

5) Is it necessary (as opposed to just desirable) to have a hard disk and/or 512k of memory for any of the above bits of hardware and software?

6) Has anyone had experience of downloading files from a modem to the PCW's disk at 1200 or 2400 baud? With a long file, can it handle telling the remote computer to hang on for a bit while it flushes the data to disk without losing some of the incoming data? Or is it necessary to store things on the RAM disk first?

R B Kenyon
Islington, London

● *Come on, at least ask us a few questions while you are writing.*

Ulp. Here goes with a quick attempt at some answers: the printer on the 8000 series machines is very closely tied in to the hardware which is how LocoScript can control it in enough detail to produce all the Cyrillic etc. characters. There is no standard ASCII-type representation of these special characters.

This means it is virtually impossible for other printers to reproduce the full character range. Laser printers will work, but only ones that emulate Epson/D630 codes.

1) Unless AMS have changed their mouse interface design recently, you can't connect their mouse at the same time as the serial/parallel interface unit (there is no through-connector on either unit). You can use the hard disc/printer/modem all at once though.

2) Yes

3) No

4) Yes (you still need your LocoScript start-of-day floppy disc)

5) No

6) As long as you buy some communications software there is no problem – all programs are designed to solve just this problem.

and give tuition, and those who are technically competent to give that tuition are probably earning a fortune as commercial programmers anyway. There's certainly a big market gap in the general training area, but Loco 2 courses are bound to spring up as it is standard issue on the PCW9512.

Letter from America

I've never seen a copy of 8000 Plus. All I've ever seen is a few copied pages of issue number one. I have sent for a subscription, this day.

What I saw in those copied pages, however, leads me to believe this magazine is every bit as good as, and better than, many of the computer magazines published in the USA.

I really hope you plan on marketing this magazine in the US, since I'm sure there are many people such as I who hunger for information on this machine. (I have the PCW8256 and am planning on getting a 1512 soon) It was only due to my penchant for detective work that resulted in my being aware of your magazine in the first place.

On of the most difficult things to do in the US is to obtain definitive information about Amstrad computers and what is, and will be, available for them. When I run into this wall of silence, I don't stop looking until I find what I'm looking for.

As a consequence, I may be the only person in the US who has a copy of SuperCalc 2 that was purchased off the shelf in a dealer store. (It was the only copy in the San Francisco Bay Area when I found it at Emporium Capwell in SF. I called over from Hayward, 30 miles away, and rode BART over right away and picked it up before they could sell it to someone else.)

The California representative for Amstrad told me I know more about this machine than *he* does! And that was only a couple of months after I bought it. Today, I have one of the salespeople at Sears stores giving my number to Amstrad owners with problems because I know more about it than he does as well. (He's coming over soon to learn more.)

It's true... I have learned a lot about the operation of this machine in the last ten months, chiefly because I keep digging until I find what I'm looking for.

The LocaScript program is one of the best word processing programs I've seen. But it does have one serious drawback. It is very slow in saving a file and scrolling through it. Particularly if the file is lengthy. This is what caused Dick Pountain, in his review of the PCW8256 in the March 1986 issue of Byte magazine to recommend that LocaScript not be used for such things as books and long documents.

I've found a way. Simply break up your book into 'chapter files.' Having each chapter as an individual file allows you to go directly to the place you want to work without having to scroll slowly through all the preceding text.

Ray Thomas
California, USA

● *Are you serious about being the only person in the US with SuperCalc 2? It's one of the best selling programs over here. You do lead a deprived life out in the colonies, but keep on reading 8000 Plus and we'll soon have you advising Ronald Reagan with his word processing problems. (Come to think of it, maybe the disc with all his Irangate memos on it developed a missing address mark, which explains why he couldn't remember anything.)*

Fading memory

I seem to have lost my memory, or at least 40k of it, once I went to LocoScript 2. Please, are other people affected in the same way? If so, what is the cause? And can anything be done to restore my faculties?

On my PCW 8256 the M drive now only shows 62k of memory when empty.

Brian Knight
South Chard, Somerset

● *Panic not – your PCW is in perfectly normal working order. The plain fact is that LocoScript 2, being a ordinary biggish sort of program, uses up 40k more memory than LocoScript 1 used to. If this causes you great inconvenience then your best bet is to spend £25 or so on a RAM upgrade kit which will give you an extra 256k in the M drive. Upgrades are fairly simple and quick to fit – if you have a back copy of our issue 9 there are details there of what is involved.*

Header and footnote

I was interested to see the letter from D.W. Cooling in your September issue because I have been having similar problems [mismatched page lengths after converting a document from LocoScript 1 to 2]. The answer seems to be rather different from the one given in your reply.

LocoScript 1 did not have a fixed Top Gap zone as LocoScript 2 does. Preparing long documents it was perfectly possible to reduce the header to less than six lines in order to save space on each page. When such a document is converted for use with Loco 2 the page layout menu will show the actual number of lines allowed for the header in the original document against the words 'Top Gap', let us say for example 5. In consequence it appears as though the original layout has been accepted.

But in fact Loco 2 insists on using six lines for the top gap and pushes the whole page of typing down far enough to allow for this, in my example one line. When this is done the material probably extends below the fixed 'bottom gap' which requires three lines. If it does the spare lines are printed at the top of the next page and then the paper is ejected from the printer before 'page 2' is printed on a third sheet.

What can be done? It is not possible to alter the menu entry 'Top Gap' to bring it to the figure required by LocoScript 2, namely six, because the Page Layout menu does not allow any changes to this line. The fact is that LocoScript 2 reduces the number of lines it is possible to have on a single page as compared with LocoScript 1, and there is nothing we can do to change this.

Rev David F. Hinson
Ferryhill, Co. Durham

● *It may be that there was a bug in early version of LocoScript 2 which causes the behaviour you describe, but on the version we have (2.04) it is possible to print more than 61 lines per A4 sheet as long as you have set the paper type up with small enough top and bottom gaps.*

However, you raise an interesting point, namely how to alter the Top Gap and Bottom Gap of the paper while editing a document. The answer is that you are looking on the wrong menu. If (while in Document Setup) you go to the 'f5=Page' menu and pick the 'Paper Type' option you get a list of current paper types with the one in use ticked. Go to the 'Show paper type' option an press [ENTER]. Now you can alter the Top and Bottom gaps, and when you press [ENTER] you will effectively create a customised paper type for that specific document, named after the document. You should also tick the 'Ignore Paper Sensor' choice if you need to print right to the bottom of single sheet stationery.

Lurking in Limbo

I sent my LocoScript 2.00 disc back to Dorking for an upgrade, and this morning got the new version – 2.06 yet! – in the post. This was very good service indeed, particularly as it was all done free of charge.

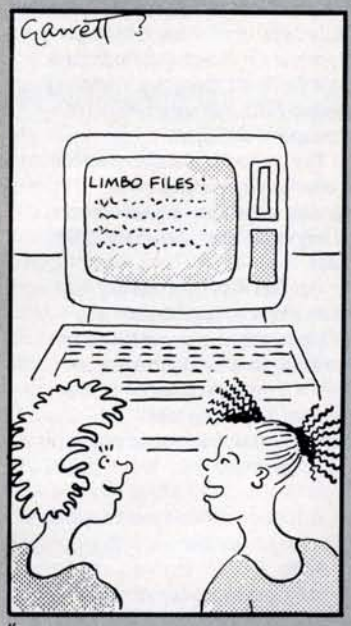
So, this evening, I rushed home from the sweat shop, all eager to let 2.06 loose on the masterpiece of the century – the 21st, that is, at the present rate of progress. All went went, until....

I got back to the Disk Manager screen, to find that there had been some sort of population explosion among the Limbo files! Every file that I had worked on had been duplicated in Limbo – this seems to happen automatically each time 'Finish Edit' is selected from the menu.

Has anyone else found this one? Am I doing something wrong? (On the PCW, that is). Is 2.06 a version that Loco save for people like me? As you see, various possibilities have occurred, but it would be a help if some kind person could tell me how to avoid all these ghoulies and ghosties.

Finishing every session by sweeping out Limbo could be Purgatory.

John Tallent
Totnes, Devon



"I SUPPOSE TO RETRIEVE THEM YOU HAVE TO DANCE LEANING BACKWARDS UNDER A 6" GAP"

● *Whenever you modify a document with LocoScript and then save it, Loco doesn't actually erase the old version but just shuffles it into Limbo. The rationale behind this is that if you realise you have accidentally cut out the wrong chunk of text while editing you can go back to the old version of the file by recovering it from Limbo. This is why there is a Limbo copy of every file you edit. You don't have to erase Limbo files yourself, Loco will do it for you as it needs to. To stop the Limbo files cluttering up your screen just use the 'Options' menu on the Disc Manager to turn off the 'Show Limbo files' option. Why your version of Loco has Show Limbo turned on when it starts up is a mystery.*

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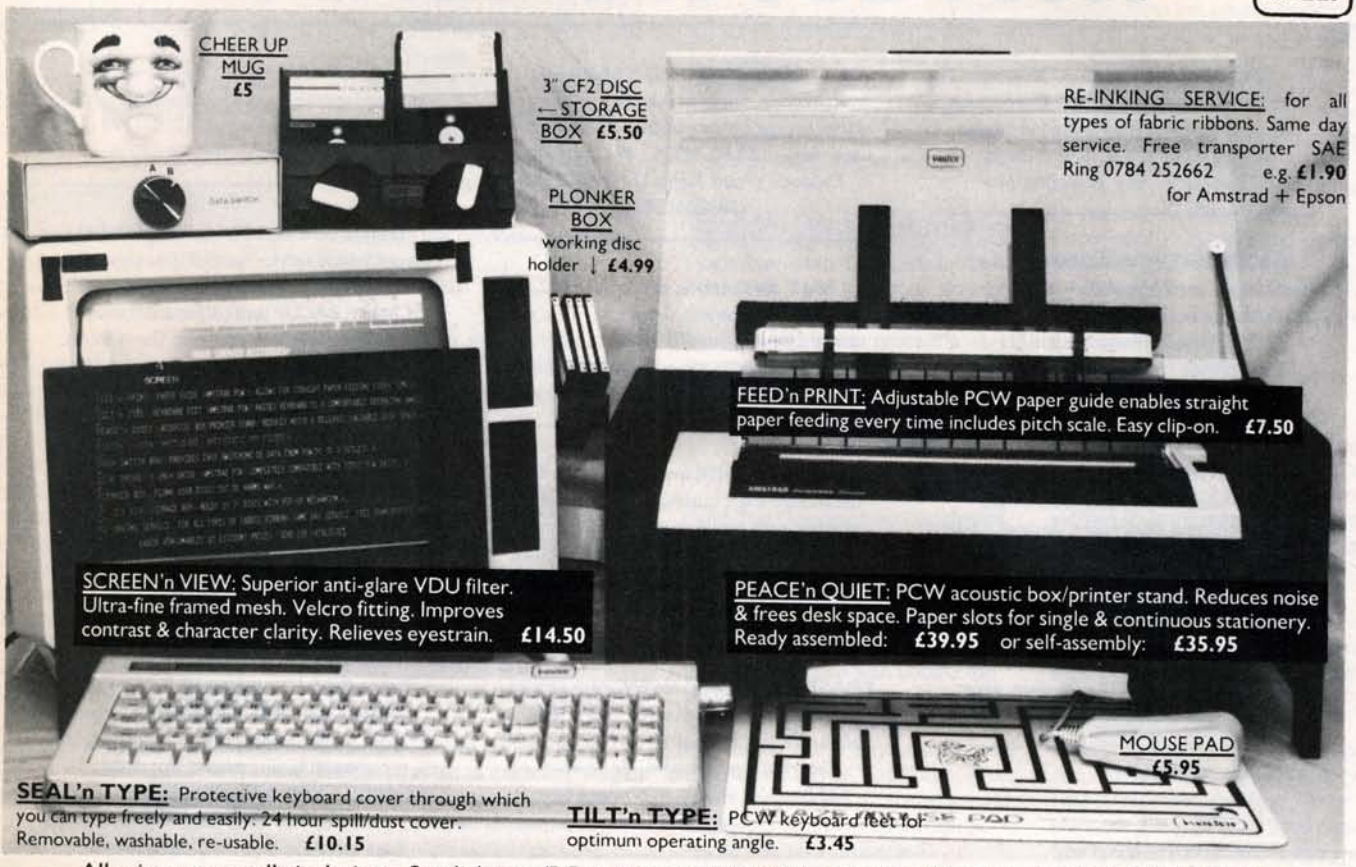

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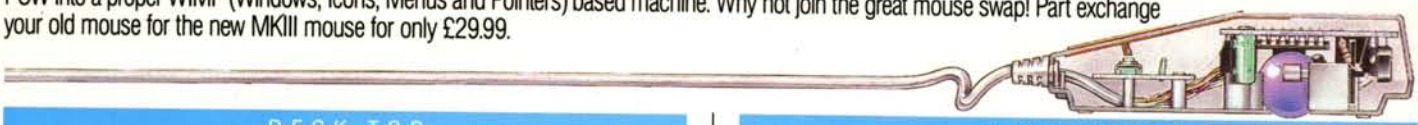

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Telephone address book stores all your important names, addresses and telephone numbers in this quick access central place.

MEMO PAD

Memo Pad allows anything from a quick memo to a complete multi-page report to be produced from the desktop. Many word processing features are included such as centering, justification, cut, copy and paste etc.

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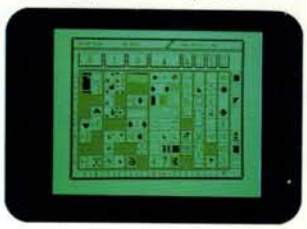

The user interface has been designed to enable a much easier and faster operation than other desktop publishing software available on the market. The master control panel appears only when activated leaving the whole screen area clear to give you the creative freedom you need.

Text can be imported from files created by LOCOSCRIPT and edited from within Stop Press to achieve that final result. There are eight variable typefaces to choose from in a wide variety of styles and sizes.

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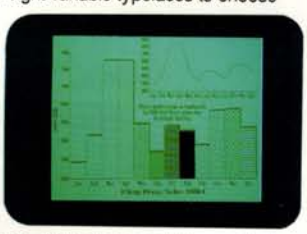

Stop Press comes with a complete array of graphic studio facilities. These include box, line and circle drawing, spray, symbol positioning and an incredible pixel zoom editor. But Stop Press does not stop there, the Easigraph mode allows the production of Pie Charts, Histograms and Linegraphs to add that touch of Finesse to all your presentation documents.

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